

Memorandum



U.S. Department
of Transportation

**Federal Highway
Administration**

Subject: Guidelines for the Consideration of
Highway Project Impacts on Fish and
Wildlife Resources

Date: **OCT 30 1989**

From: Director, Office of Environmental Policy
Washington, D.C. 20590

Reply to: **HEV-20**
Attn. of:

To: Regional Federal Highway Administrators
Federal Lands Highway Program Administrator

This memorandum transmits a revised guidance package for the subject topic. It replaces the material currently found in Section 10 of the Environmental Guidebook.

We suggest that one copy of this memorandum and the guidelines be placed in Section 10 of the Guidebook for reference until the next annual revision is distributed in January of 1990.

Please direct any comments or questions to either Messrs. Charles DesJardins or Robert Falkenstein at FTS 366-9173.

A handwritten signature in black ink, appearing to read "Ali F. Sevin".

Ali F. Sevin

Attachment

GUIDELINES FOR THE
CONSIDERATION OF
HIGHWAY PROJECT IMPACTS
ON
FISH AND WILDLIFE RESOURCES

ENVIRONMENTAL ANALYSIS DIVISION
OFFICE OF ENVIRONMENTAL POLICY
FEDERAL HIGHWAY ADMINISTRATION

OCTOBER 1989

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I. Introduction

This section on Fish and Wildlife resources is limited to considerations stemming from Federal legislation concerning fish and wildlife coordination. It does not touch on endangered species or wetlands since they are dealt with in other sections of this guidebook. It should be remembered, however, that overlaps are always possible and will have a bearing on project analysis and decisionmaking.

II. Chronology of Major Events relating to Federal Fish and Wildlife Policy

March 10, 1934	"An Act to Promote the Conservation of Wildlife, Fish, and Game and for other purposes"
Aug. 14, 1946	Act of 1934 amended to provide for consultations between any agencies and the Fish and Wildlife Service (FWS) and head of State agency exercising administration over State wildlife resources prior to the impounding of water to prevent loss and damage to wildlife resources.
Aug. 12, 1958 (PL 85-624)	Further amends the Act of 1934 and is cited as the "Fish and Wildlife Coordination Act." (FWCA)
July 9, 1965 (PL 89-72)	Amends Act of 1958
Aug. 15, 1974	Proposed guidelines for interim use implementing the 1958 FWCA are published by FWS for comment.
Dec. 1, 1975	FWS adopts guidelines for the review of fish and wildlife aspects of proposals in or affecting navigable waters.
Sept. 19, 1980	FWS publishes its draft mitigation policy
Jan. 23, 1981	FWS publishes its final mitigation policy

III. FWCA of 1958 as Amended (Appendix B)

In general terms, the FWCA seeks to ensure that fish and wildlife resources receive "equal consideration" in Federal decisions affecting water bodies. To accomplish this objective the Act requires coordination with the FWS, Department of the Interior (DOI) and with the head of the agency administering the wildlife resources of the particular States(s) whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage. (emphasis added)

The Act exempts projects for water impoundment where the maximum surface area is less than 10 acres, and activities for or in connection with programs primarily for land management and use carried out by Federal agencies with respect to Federal lands under their jurisdiction. Under normal circumstances, these two exceptions will not be applicable to Federal-aid highway projects.

The Federal Highway Administration (FHWA) as a Federal agency, and by extension the State highway agency (SHA), is required by the FWCA to ". . . give full consideration to the report and recommendations of the Secretary of the Interior and to any report of the State agency on the wildlife aspects of such projects, and the project plan shall include such justifiable means and measures for wildlife purposes as the reporting agency finds should be adopted to obtain maximum overall project benefits." This call is delegated to the Division Administrator.

The FWCA is implemented according to "Guidelines for the Review of Fish and Wildlife Aspects of Proposals in or Affecting Navigable Waters as published in the Federal Register on December 1, 1975 (Appendix C). As stated in Section 5.2 (6) of the Guidelines, "The Service will object to or request denial of Federal Permit for any proposed project not properly designed or located to avoid preventable significant damages to fish, wildlife, and/or other environmental values."

It must be recognized that fish and wildlife issues that have not been satisfactorily resolved during the environmental study phase of the project development process will probably arise again when application is made for a Section 404 permit. If the issues are serious enough, the entire project is placed in jeopardy through possible permit denial by the Corps of Engineers (COE) or veto by the Environmental Protection Agency in accordance with Section 404 (c). It is, therefore, essential that any recommendations made by DOI that will not be implemented should be addressed in the environmental study, with a clear explanation of the basis and reasons for not incorporating the recommendations into the proposed action.

The DOI withdrew its attempt to develop a regulation implementing the FWCA. The DOI in the Federal Register of July 19, 1982, indicated that the proposed rulemaking was withdrawn in favor of administrative actions, preparing Memoranda of Agreement, and other executive instructions. The FHWA continues to support the position that the requirements of the FWCA are clear and implementing regulations are not necessary. The FHWA also feels that Memoranda of Agreement and other executive instructions are not necessary to implement the provisions of the FWCA and in particular the provisions on mitigation of wildlife habitat.

IV. FWS Mitigation Policy

On January 23, 1981, the FWS published in the Federal Register a notice of Final Policy on Fish and Wildlife Mitigation (Appendix D).

In the Background section preceding the Policy, it is stated that:

"This policy conditions only the actions of Service employees involved in providing mitigation recommendations. It does not dictate actions or positions that Federal action agencies or individuals must accept. However, it is hoped that the policy will provide a common basis for mitigation decisionmaking and facilitate earlier consideration of fish and wildlife values in project planning activities."

The Discussion section, which also precedes the Policy responds to a comment which states:

"The policy neglects to indicate the necessary process if an agency does not agree with the Service recommendations."

"Response: ... If project planners and the Service field office cannot agree on a modified or substitute proposal for mitigation, the matter is often referred upwards to the next highest level. Higher management levels are then generally able to resolve the issue quickly, although the Federal action agency has the final say." (Emphasis added)

Positions set forth by the FWS with regard to extent of mitigation, for which the mitigation policy is cited as authority, should be viewed as advisory.

The FHWA recommends that each field office and SHA be aware of and familiar with the policy. It allows the action agency (FHWA/SHA) to anticipate Service recommendations and plan for mitigation measures early. The Service should be following this policy whenever it provides comments on action agency proposals including: 1) investigations and recommendations for all actions requiring a federally issued permit or license that would impact the waters of the U.S.; 2) all major Federal actions significantly affecting the quality of the human environment; and 3) other Federal actions for which the Service has legislative authority or executive direction for involvement.

If the FWS provides mitigation comments which are not accepted by the action agency, it can be expected that the FWS will do everything within its legislated or authorized authorities to elevate its concern to a higher level.

Whenever FWS recommendations cannot be implemented, that a careful, professional analysis be prepared documenting the reasons for the decision.

V. Mitigation of Impacts to Privately Owned Wildlife Habitat (Nonwetland)

The FHWA is continually faced with the question of how much is enough mitigation when upland wildlife habitat is impacted. Frequently, those Federal and State agencies responsible for upland wildlife resources give the same priority to that resource as wetland habitat. However, Federal law does not support this position. The following discussion provides the basis for FHWA nonwetland wildlife habitat mitigation on privately owned property while comparing that policy to wetland mitigation on privately owned property.

The FHWA has codified in the Code of Federal Regulations (CFR), Part 777, "Mitigation of Environmental Impacts of Privately Owned Wetlands." Section 777.11(i) states that:

"The policy set forth in this part does not extend to the acquisition of interests in lands outside of the highway right-of-way for the purpose of mitigating impacts caused by the taking of privately owned lands (not wetlands) that have value as wildlife habitat which may be affected by a Federal-aid highway project."

Section 777.11(i) was included since FHWA does not believe that there is sufficient justification for applying the same policy to privately owned nonwetland wildlife habitat as we apply to the preservation of privately owned wetlands. The FHWA believes that in most cases, practices such as the appropriate management of land within the right-of-way, using specialized location, design and construction techniques, locating and designing borrow pits to establish fish and wildlife habitat, and the possible acquisition of a wider right-of-way area, etc., will adequately mitigate the loss of any wildlife habitat. Furthermore, because of the need to balance all competing social, economic, and environmental concerns; it may not be possible in all cases to provide mitigation for wildlife habitat impacts.

The FHWA policy was explained in a letter from former Department of Transportation Assistant Secretary William B. Johnston to the DOI which states:

"The mitigation measures which we provide for wetland impacts--such as acquisition or replacement wetlands for public ownership and management where appropriate--reflect the special value of wetlands. This value includes wildlife habitat and also flood control, aquifer recharge, and a variety of other purposes, all of which serve as the basis for the special emphasis on wetlands reflected in Executive Order 11990. Similarly, where other major environmental values which are recognized by statute or Executive Order are involved (for example, impacts on endangered species habitat or use of land from publicly-owned parks or wildlife refuges), we also take special efforts in the mitigation area."

"We do not find any comparable indication of national priority with regard to upland wildlife habitat which would require extraordinary mitigation efforts. Because wildlife habitat is so extensive in this country, implementing a policy to replace all wildlife habitat taken would be exceedingly difficult to control and manage. Consequently, the Department cannot support the purchase of additional lands for mitigation of acquired privately owned lands (nonwetlands with possible value as wildlife habitat) as being justified and in the overall public interest."

"What is the issue, we believe is a question of balance among competing environmental, social, and economic requirements and concerns. The comments which we frequently receive from the DOI on fish and wildlife impacts reflect an appropriate and important concern for fish and wildlife values. We find, however, that DOI comments on mitigation measures frequently reflect a single-minded intent to protect those values and mitigate any losses suffered to them, often at very high cost. Our responsibilities include environmental protection and mitigation of impacts but also must include other considerations that require us to balance the multiple and competing values which are involved in any of our major projects. We frequently find that our view of an acceptable balance does not conform with the views of the FWS concerning an acceptable level of protection for their particular areas of interest."

"With respect to mitigation measures, such as providing replacement habitat, we recognize that acquisition of land for management as wildlife habitat may be a desirable mitigation measure from a fish and wildlife perspective, but it may also cause other adverse impacts, such as taking additional land out of agricultural production and reducing the local tax base, both of which are considered by other agencies to be serious problems. The seriousness of these problems increases when the suggestion is made that all habitat is significant and should be replaced on a multiple of as much as seven to one or even more. In the case of each project which we plan or support, we must make the decisions on what is an appropriate balance among competing objectives and policies. This is a responsibility which we cannot delegate to the FWS, the COE, or any other agency."

The DOI was also advised that specific mitigation measures for fish and wildlife habitat impacts, such as providing replacement habitat in the highway right-of-way, use of specialized construction techniques, location and design of borrow pits, and other methods are used on highway projects, whenever appropriate. The package of mitigation measures, which we incorporate, is a function of the value of the resources affected, the severity of the impact, the scope of the project, and other variables affecting the individual case.

Summary:

The FHWA fully recognizes its responsibility to consider the mitigation of nonwetland wildlife habitat under the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulation implementing NEPA, the FWCA, and various FHWA policy statements.

The FHWA has established a special policy for mitigation of wetland impact as a result of the national emphasis that has been placed on the importance of wetlands. The FHWA does not find a comparable national priority being placed on nonwetland wildlife habitat that warrants the application of the extraordinary measures, including the acquisition of replacement land, that are being applied to mitigation of important wetlands.

It is FHWA's position that current practices, such as providing appropriate management of land within the right-of-way, using specialized location, design, and construction techniques, locating and designing borrow pits to establish fish and wildlife habitat, and the possible acquisition of a wider right-of-way area, will adequately mitigate the loss of any wildlife habitat.

The FHWA's current practices for mitigation of impacts of important nonwetland wildlife habitat are, however, no substitute for early and active coordination with the FWS, State agencies, and others with responsibility and concern for wildlife resources. Every reasonable effort should be made to identify these important resources and to assure that they are given adequate consideration during the decisionmaking process.

VI. Habitat Evaluation Procedures

The FWS has developed a wildlife habitat assessment procedure for use in project planning. Through abstraction and simplification, ecosystem relationships are interpreted to provide a tool for predicting and assessing the results of proposed land use changes. The Habitat Evaluation Procedure (HEP) was developed to provide a uniform, nationwide method of evaluating the impacts of construction projects on fish and wildlife resources. Additionally, HEP is intended to provide the documentation sufficient to justify mitigation and enhancement measures for various alternative project plans.

The procedure is based on the assumption that values for the habitats of wildlife species can be accurately determined by a team of biologists, conducting pre-project environmental studies. Simply stated, the values are determined by assessing various habitat components and assigning a numerical rating from 0-10 for each indicator species selected for study. The sum of all ratings multiplied by the size of the impacted area gives a total wildlife habitat value. This figure then serves as the measure of mitigative effort necessary to compensate for wildlife habitat value lost during project implementation.

Habitat value determinations are subject to wide variation depending upon decisions of the biological team members, the species chosen for study, and the type of habitat for which the assessments are made. Members of the biological team assign values for each species based on subjective assessments that, unfortunately, allow the introduction of personal bias. Consequently, the final habitat values, upon which project decisions could be made, may be based on other than documented scientific determinations.

The habitat values may exhibit a high degree of variance and thus may not be useful in making alternative decisions and estimates of impact compensation. The use of HEP has yielded results as high as 15 acres replaced to 1 acre lost and in most cases greater than 1 acre replaced for 1 acre lost.

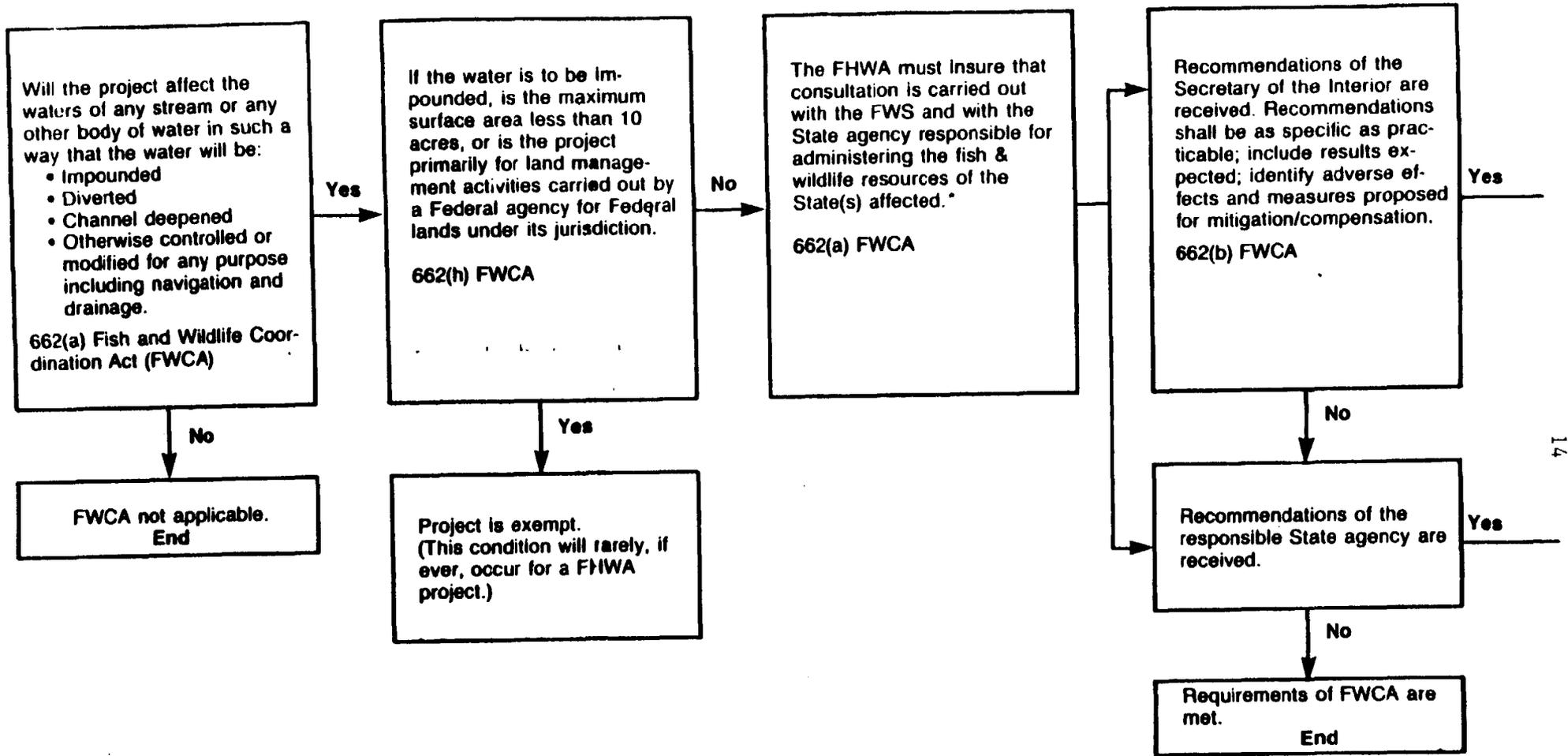
The Minnesota Department of Transportation (MNDOT), however, uses a modified version of HEP in conjunction with a Wetland Habitat Mitigation Banking procedure. All cooperating agencies including the Minnesota Department of Natural Resources, the FWS, FHWA, and MNDOT seem to be satisfied with the results. Further information on this approach is available in a MNDOT Technical Memorandum, No. 87-28-ENV-2, dated June 18, 1987.

If HEP is used, active involvement by highway department biologists is suggested during all value determinations. HEP can be a useful decisionmaking tool, however; the States are urged to use the system with caution. The users of the system must be aware that only habitat values are evaluated. This means that the many other recognized functional values of wetlands for example are not analyzed by HEP.

Appendices

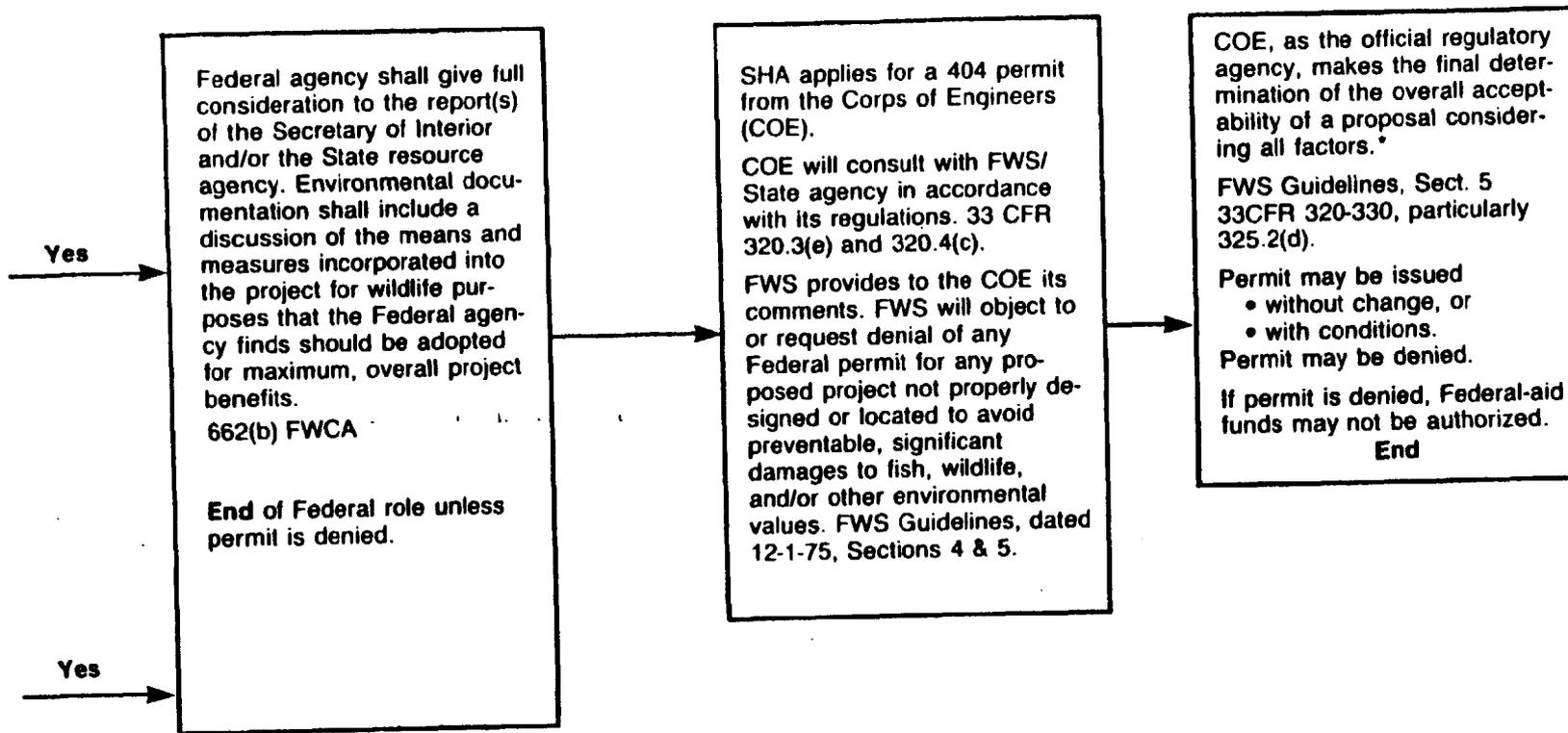
APPENDIX A
FISH AND WILDLIFE COORDINATION FLOWCHART

Fish and Wildlife Coordination



*If the proposed project affects water resources that are covered by the FWCA, it should be recognized that a 404 permit will also be required. If the recommendations of the FWS/State agency can be accommodated and a mitigation commitment made in the environmental document, then the re-examination of FWCA issues at the 404 permit stage should be routine unless project or policy change has occurred. If resolution cannot be obtained during the environmental process, then the objection of the FWS/State agency can be expected at permit time.

*Section references to 16 USC 661-667(d).



*The EPA may review the permit and if necessary, veto it in accordance with Section 404(c) of the Clean Water Act.

APPENDIX B

FISH AND WILDLIFE COORDINATION ACT

**(16 U.S.C. 661-666c; P.L. 85-624, August 12, 1958;
Amended by P.L. 89-72, July 9, 1965)**

FISH AND WILDLIFE COORDINATION ACT

(16 U.S.C. 661-666c; P.L. 85-624, August 12, 1958; Amended by P.L. 89-72,
July 9, 1965)

§661. Declaration of purpose; cooperation of agencies; surveys and investigations; donations

For the purpose of recognizing the vital contribution of our wildlife resources to the Nation, the increasing public interest and significance thereof due to expansion of our national economy and other factors, and to provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation for the purposes of sections 661-666c of this title in the United States, its Territories and possessions, the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections; (2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections.

§662. Impounding, diverting, or controlling of waters

(a) Consultations between agencies

Except as hereafter stated in subsection (h) of this section, whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development.

(b) Reports and recommendations; consideration

In furtherance of such purposes, the reports and recommendations of the Secretary of the Interior on the wildlife aspects of such projects, and any report of the head of the State agency exercising administration over the wildlife resources of the State, based on surveys and investigations conducted by the United States Fish and Wildlife Service and such

State agency for the purpose of determining the possible damage to wildlife resources and for the purpose of determining means and measures that should be adopted to prevent the loss of or damage to such wildlife resources, as well as to provide concurrently for the development and improvement of such resources, shall be made an integral part of any report prepared or submitted by any agency of the Federal Government responsible for engineering surveys and construction of such projects when such reports are presented to the Congress or to any agency or person having the authority or power, by administrative action otherwise, (1) to authorize the construction of water-resource development projects or (2) to approve a report on the modification or supplementation of plans for previously authorized projects, to which sections 661-666c of this title apply. Recommendations of the Secretary of the Interior shall be as specific as is practicable with respect to features recommended for wildlife conservation and development, lands to be utilized or acquired for such purposes, the results expected, and shall describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages. The reporting officers in project reports of the Federal agencies shall give full consideration to the report and recommendations of the Secretary of the Interior and to any report of the State agency on the wildlife aspects of such projects, and the project plan shall include such justifiable means and measures for wildlife purposes as the reporting agency

finds should be adopted to obtain maximum overall project benefits.

(c) Modification of projects; acquisition of lands

Federal agencies authorized to construct or operate water-control projects are authorized to modify or add to the structures and operations of such projects, the construction of which has not been substantially completed on the date of enactment of the Fish and Wildlife Coordination Act, and to acquire lands in accordance with section 663 of this title, in order to accommodate the means and measures for such conservation of wildlife resources as an integral part of such projects: *Provided*, That for projects authorized by a specific Act of Congress before the date of enactment of the Fish and Wildlife Coordination Act (1) such modification or land acquisition shall be compatible with the purposes for which the project was authorized; (2) the cost of such modifications or land acquisition, as means and measures to prevent loss of and damage to wildlife resources to the extent justifiable, shall be an integral part of the cost of such projects; and (3) the cost of such modifications or land acquisition for the development or improvement of wildlife resources may be included to the extent justifiable, and an appropriate share of the cost of any project may be allocated for this purpose with a finding as to the part of such allocated cost, if any, to be reimbursed by non-Federal interests.

(d) Project costs

The cost of planning for and the construction or installation and maintenance of such means and measures adopted to carry out the conservation purposes of this section shall constitute an integral part of the cost of such projects: *Provided*, That such cost attributable to the development and improvement of wildlife shall not extend beyond that necessary for (1) land acquisition, (2) facilities as specifically recommended in water resource project reports, (3) modification of the project, and (4) modification of project operations, but shall not include the operation of wildlife facilities.

(e) Transfer of funds

In the case of construction by a Federal agency, that agency is authorized to transfer to the United States Fish and Wildlife Service, out of appropriations or other funds made available for investigations, engineering, or construction, such funds as may be necessary to conduct all or part of the investigations required to carry out the purposes of this section.

(f) Estimation of wildlife benefits or losses

In addition to other requirements, there shall be included in any report submitted to Congress supporting a recommendation for authorization of any new project for the control or use of water as described herein (including any new division of such project or new supplemental works on such project) an estimation of the wildlife benefits or losses to be derived therefrom including benefits to be derived from measures recommended specifically for the development and improvement of wildlife resources, the cost of providing wildlife benefits (including the cost of additional facilities to be installed or lands to be acquired specifically for that particular phase of wildlife conservation relating to the development and improvement of wildlife), the part of the cost of joint-use facilities allocated to wildlife, and the part of such costs, if any, to be reimbursed by non-Federal interests.

(g) Applicability to projects

The provisions of this section shall be applicable with respect to any project for the control or use of water as prescribed herein, or any unit of such project authorized before or after the date of enactment of the Fish and Wildlife Coordination Act for planning or construction, but shall not be applicable to any project or unit thereof authorized before the date of enactment of the Fish and Wildlife Coordination Act if the construction of the particular project or unit thereof has been substantially completed. A project or unit thereof shall be considered to be substantially completed when sixty percent or more of the estimated construction cost has been obligated for expenditure.

(h) Exempt projects and activities

The provisions of sections 661-666c of this title shall not be applicable to those projects for the impoundment of water where the maximum surface area of such impoundments is less than ten acres, nor to activities for or in connection with programs primarily for land management and use carried out by Federal agencies with respect to Federal lands under their jurisdiction.

§663. Impoundment or diversion of waters

(a) Conservation, maintenance, and management of wildlife resources; development and improvement

Subject to the exceptions prescribed in section 662(h) of this title, whenever the waters of any stream or other body of

water are impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, adequate provision, consistent with the primary purposes of such impoundment, diversion, or other control, shall be made for the use thereof, together with any areas of land, water, or interests therein, acquired or administered by a Federal agency in connection therewith, for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon, including the development and improvement of such wildlife resources pursuant to the provisions of section 662 of this title.

(b) Use and availability of waters, land, or interests therein

The use of such waters, land, or interests therein for wildlife conservation purposes shall be in accordance with general plans approved jointly (1) by the head of the particular department or agency exercising primary administration in each instance, (2) by the Secretary of the Interior, and (3) by the head of the agency exercising the administration of the wildlife resources of the particular State wherein the waters and areas lie. Such waters and other interests shall be made available, without cost for administration, by such State agency, if the management of the properties relate to the conservation of wildlife other than migratory birds, or by the Secretary of the Interior, for administration in such manner as he may deem advisable, where the particular properties have value in carrying out the national migratory bird management program: *Provided*, That nothing in this section shall be construed as affecting the authority of the Secretary of Agriculture to cooperate with the States or in making lands available to the States with respect to the management of wildlife and wildlife habitat on lands administered by him.

(c) Acquisition of land, waters, and interests therein; report to Congress

When consistent with the purposes of sections 661-666c of this title and the reports and findings of the Secretary of the Interior prepared in accordance with section 662 of this title, land, waters, and interests therein may be acquired by Federal construction agencies for the wildlife conservation and development purposes of sections 661-666c of this title in connection with a project as reasonably needed to

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preserve and assure for the public benefit the wildlife potentials of the particular project area: *Provided*, That before properties are acquired for this purpose, the probable extent of such acquisition shall be set forth, along with other data necessary for project authorization, in a report submitted to the Congress, or in the case of a project previously authorized, no such properties shall be acquired unless specifically authorized by Congress, if specific authority for such acquisition is recommended by the construction agency.

(d) Use of acquired properties

Properties acquired for the purposes of this section shall continue to be used for such purposes, and shall not become the subject of exchange or other transactions if such exchange or other transaction would defeat the initial purpose of their acquisition.

(c) Availability of Federal lands acquired or withdrawn for Federal water-resource purposes

Federal lands acquired or withdrawn for Federal water-resource purposes and made available to the States or to the Secretary of the Interior for wildlife management purposes, shall be made available for such purposes in accordance with sections 661-666c of this title, notwithstanding other provisions of law.

(f) National forest lands

Any lands acquired pursuant to this section by any Federal agency within the exterior boundaries of a national forest shall, upon acquisition, be added to and become national forest lands, and shall be administered as a part of the forest within which they are situated, subject to all laws applicable to lands acquired under the provisions of the Act of March 1, 1911 (36 Stat. 961), unless such lands are acquired to carry out the National Migratory Bird Management Program.

§664. Administration; rules and regulations; availability of lands to State agencies

Such areas as are made available to the Secretary of the Interior for the purposes of sections 661-666c of this title, pursuant to sections 661 and 663 of this title or pursuant to any other authorization, shall be administered by him directly or in accordance with cooperative agreements entered into pursuant to the provisions of section

661 of this title and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, as may be adopted by the Secretary in accordance with general plans approved jointly by the Secretary of the Interior and the head of the department or agency exercising primary administration of such areas: *Provided*, That such rules and regulations shall not be inconsistent with the laws for the protection of fish and game of the states in which such area is situated: *Provided further*, That lands having value to the National Migratory Bird Management Program may, pursuant to general plans, be made available without cost directly to the State agency having control over wildlife resources, if it is jointly determined by the Secretary of the Interior and such State agency that this would be in the public interest: *And provided further*, That the Secretary of the Interior shall have the right to assume the management and administration of such lands in behalf of the National Migratory Bird Management Program if the Secretary finds that the State agency has withdrawn from or otherwise relinquished such management and administration.

§665. Investigations as to effect of sewage, industrial wastes; reports

The Secretary of the Interior, through the Fish and Wildlife Service and the Bureau of Mines, is authorized to make such investigations as he deems necessary to determine the effects of domestic sewage, mine, petroleum, and industrial wastes, erosion silt, and other polluting substances on wildlife, and to make reports to the Congress concerning such investigations and of recommendations for alleviating dangerous and undesirable effects of such pollution. These investigations shall include (1) the determination of standards of water quality for the maintenance of wildlife; (2) the study of methods of abating and preventing pollution, including methods for the recovery of useful or marketable products and byproducts of wastes; and (3) the collation and distribution of data on the progress and results of such investigations for the use of Federal, State, municipal, and private agencies, individuals, organizations, or enterprises.

§665a. Maintenance of adequate water levels in upper Mississippi River

In the management of existing facilities (including locks, dams, and pools) in the Mississippi River between Rock Island, Illinois, and Minneapolis, Minnesota, administered by the United States Corps of Engineers of the Department of the Army, that Department is directed to give full consideration and recognition to the needs of fish and other wildlife resources and their habitat dependent on such waters, without increasing additional liability to the Government, and, to the maximum extent possible without causing damage to levee and drainage districts, adjacent railroads and highways, farm lands, and dam structures, shall generally operate and maintain pool levels as though navigation was carried on throughout the year.

§666. Authorization of Appropriations

There is authorized to be appropriated from time to time, out of any money in the Treasury not otherwise appropriated, such amounts as may be necessary to carry out the provisions of sections 661-666c of this title and regulations made pursuant thereto, including the construction of such facilities, buildings, and other improvements necessary for economical administration of areas made available to the Secretary of the Interior under said sections, and the employment in the city of Washington and elsewhere of such persons and means as the Secretary of the Interior may deem necessary for such purposes.

§666a. Penalties

Any person who shall violate any rule or regulation promulgated in accordance with sections 661-666c of this title shall be guilty of a misdemeanor and upon conviction thereof shall be fined not more than \$500 or imprisoned for not more than one year, or both.

§666b. Definitions

The terms "wildlife" and "wildlife resources" as used herein include birds, fishes, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

§666c. Applicability to Tennessee Valley Authority

The provisions of sections 661-666b of this title shall not apply to the Tennessee Valley Authority.

APPENDIX C

**GUIDELINES FOR THE REVIEW OF FISH AND
WILDLIFE ASPECTS OF PROPOSALS IN OR AFFECTING
NAVIGABLE WATERS**

(As published in the Federal Register on Monday, December 1, 1975)

MONDAY, DECEMBER 1, 1975



PART IV:

**DEPARTMENT
OF INTERIOR**

Fish and Wildlife Service

**REVIEW OF FISH AND
WILDLIFE ASPECTS OF
PROPOSALS IN OR
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WATERS**

Adoption of Guidelines

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NAVIGABLE WATERS

Adoption of Guidelines

On August 15, 1974, the Department of the Interior, acting through the Director, Fish and Wildlife Service, published proposed guidelines for interim use by Service employees. These proposed guidelines prescribed the objectives, policies, and procedures to be followed in the review of proposals for work and activities in or affecting navigable waters that are sanctioned, permitted, assisted, or conducted by the Federal Government. These review functions delegated to the Service by the Secretary of the Interior are prescribed by the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e; 48 Stat. 401, as amended), the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347; 83 Stat. 852), the Estuary Protection Act (16 U.S.C. 1224; 82 Stat. 627), the Department of Transportation Act (49 U.S.C. 1653(f); 82 Stat. 825), the Federal Aid Highway Act (23 U.S.C. 138; 82 Stat. 823), the Airport and Airway Development Act of 1970 (49 U.S.C. 1712 (c) and (f), 1716(c) (4); 84

Stat. 222, 227), the Watershed Protection and Flood Prevention Act (16 U.S.C. 1008; 72 Stat. 567), and the Endangered Species Act of 1973 (16 U.S.C. 1536; 87 Stat. 892). The Service also has advisory and consulting roles under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451) and the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401), as well as basic and other authorities.

The Department of the Interior, acting through the Fish and Wildlife Service, is publishing herewith the final guidelines which prescribe the objectives, policies, and procedures to be followed in the review of proposals for works and activities in or affecting navigable waters that are sanctioned, permitted, assisted, or conducted by the Federal Government.

Notice also is made of the availability for public inspection of the Service's complete Navigable Waters Handbook, including the main text, published herein, and the Appendices A through I which are not published but are referenced in the main text. The complete handbook may be inspected at any of the following listed offices of the Service during the hours indicated Monday through Friday of each week excepting Federal holidays:

Office location	Street address	Room No.	Business hours
Portland, Oreg. 97208	1500 Northeast Irving St.	204	7:30-4:15
Albuquerque, N. Mex. 87103	500 Gold Ave. SW	10102	8-4:30
Twin Cities, Minn. 55111	Federal Bldg., Fort Snelling	658	7:30-4
Atlanta, Ga. 30323	17 Executive Park Dr., NE	342	7:15-3:45
Boston, Mass. 02109	U.S. Post Office and Courthouse, Devonshire and Water Sts.	800	8-4:30
Denver, Colo. 80215	10597 West 6th Ave.	None	7:30-4
Anchorage, Alaska 99501	813 D St.	None	7:45-4:30
Washington, D.C. 20240	Interior Bldg., 18th and C Sts. NW	2543	7:45-4:15

The public comment period for these guidelines expired on September 23, 1974. These guidelines have been revised, based on comments received from the general public, State agencies, and other Federal agencies as well as interpretative guidance received from recent judicial decisions. We wish to take this opportunity to express appreciation for these comments and suggestions.

The following analysis summarizes comments of particular significance which were received on the cited sections of the proposed guidelines and discusses the basis for the decisions which were made.

Section 2.2B(1). Several comments were received concerning the Service's policy with regard to the proper scope of Federal jurisdiction in navigable waters. Accordingly, this paragraph has been rewritten to more accurately reflect current Federal jurisdictional limits.

Sections 2.2B(1)(a), 2.2B(1)(b), and 2.2B(4). A number of comments pointed out that the use of the term "public interest" needed clarification since the term denotes an intricate complex of interests that are often difficult to perceive or evaluate accurately. To clarify this matter, the term "public interest" as used in these guidelines refers to factors related to fish and wildlife resources as

outlined in the Fish and Wildlife Coordination Act, unless otherwise specified. The purpose of this Act as stated in section 661 is "Recognizing the vital contributions of our wildlife resources to the Nation, the increasing public interest and significance thereof due to expansion of our national economy and other factors, and to provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation . . . in the United States, its Territories and possessions . . ." by providing assistance to, and cooperating with . . . Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife resources thereof, and their habitat . . ."

In Section 662, this Act specifically requires that "whenever the waters of any stream or body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United

States, or by any public or private agency under Federal permit or license, such department or agency shall first consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State . . . with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof . . ." (underlining added.) For the purposes of this Act, wildlife and wildlife resources are defined as "birds, fishes, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent."

Sections 5.3I. (1) and (2). Concerns were raised that these sections preclude the consideration and balancing of project costs and benefits, and thus do not comply with provisions of the National Environmental Policy Act. To clarify this matter, the Service's role in the permit review process is to evaluate and comment on the effects of a proposal on fish and wildlife resources. It is the function of the regulatory agency rather than the Fish and Wildlife Service to balance all factors, including anticipated costs and benefits, and decide which type of activity will be permitted.

Sections 5.3N(1) and 5.3N(3)(c)(i). Several comments were received expressing concern with regard to the Service's possible rigid position against "once-through" cooling systems. However, as the first sentence in this section implies and as it is clearly stated in section 5.1D, an evaluation of each cooling system will be made on a case-by-case basis and each proposal will be weighed on its individual merits. Furthermore, sections 5.3N(3)(a) through 5.3N(3)(c)(iv) provide the criteria under which "once-through" cooling systems will be considered environmentally acceptable. It was further suggested that the Service consider and balance all the costs and benefits of the various cooling and power generating technologies during our permit review process. As explained in our previous response to sections 5.3(I)(1) and (2), such an evaluation is not the role of the Service.

These guidelines are effective on December 1, 1975.

LYNN A. GREENWALT,
Director,
Fish and Wildlife Service.

NOVEMBER 21, 1975.

NAVIGABLE WATERS HANDBOOK

1. Introduction.

1.1 Purpose and arrangement of material. A. This brings together the policy and procedural guidelines and pertinent reference materials applicable to the program of the Division of Ecological Services, Fish and Wildlife Service, regarding dredge, fill, materials discharge and disposal and related Federal and federally permitted work and activities conducted in and adjoining the Nation's waters.

B. The guidelines are presented in this 10-section main part of the handbook, and the reference materials are organized in 9 appendixes: A through I. Appendixes A, B, and C include, respectively, form letters and reports, recording forms and other procedural aids, and standard recommendations. Appendix D contains legal and related references; Appendix E, official policy statements of Interior; Appendix F, official policy statements of other entities; Appendix G, technical references; Appendix H, general educational material; and Appendix I, procedural references, including definitions of terms.

1.2 *Developments and activities covered—A. Summary of coverage.* These guidelines are applicable to all works and dredge, fill and other activities affecting navigable waters that are sanctioned, permitted, assisted, or conducted by the Federal Government. The central focus of the handbook is on the navigation permit program of the Corps (Corps of Engineers, U.S. Department of the Army) conducted under the Act of March 3, 1899, and related Acts (App. D-2a), but the coverage includes:

(1) Works and activities in navigable waters, federally permitted by the Corps under Sec. 10 of the Act of March 3, 1899, App. D-2a. These include various works and activities secondarily permitted by the Corps such as: Mineral exploration and development on outer continental shelf and other public lands for which leasing and certain basic permitting authority rests with the Secretary of the Interior; rights of way on public lands for which authority rests in a number of Federal land administering agencies including several bureaus of Interior, the Forest Service and others; and use, occupancy, and filling of and removal of sand, gravel, and coral from tidelands, submerged lands, and filled lands in or adjacent to Guam, the Virgin Islands, and American Samoa which is permitted by the Secretary of the Interior under Sec. 2 of the Act of November 20, 1963, App. D-2w.

(2) Discharges of pollutants and the disposal of materials in navigable waters and the transportation for and dumping of materials in ocean waters will be the subject of a separate handbook, but they are covered in summary here because of their relation to the fully covered activities:

(a) Discharge of pollutants into navigable waters, federally permitted by the EPA (Environmental Protection Agency) or by the State with oversight by the EPA under Sec. 402 of the FWPCA (Federal Water Pollution Control Act, as amended by Pub. L. 92-500)—the NPDES Permits (National Pollutant Discharge Elimination System Permits), App. D-2s.

(b) Disposal of dredged and fill material in navigable waters and transportation of dredged material for ocean dumping, federally permitted by the Corps with oversight (and veto power) by the EPA under Sec. 404 of the FWPCA, App. D-2s and under Sec. 103 of the Marine Protection, Research, and

Sanctuaries Act of 1972 (MPRSA), App. D-2x.

(c) Transportation of materials other than dredged material for dumping in ocean waters and dumping of such materials in the territorial sea federally permitted by EPA under Sec. 102 of the MPRSA, App. D-2x.

(d) Disposal of sewage sludge which would result in any pollutant entering navigable waters, federally permitted by the EPA or by a State with oversight by the EPA under Sec. 405 of the FWPCA, App. D-2s.

(3) Bridges and causeways over navigable waters federally permitted by the U.S. Coast Guard (Coast Guard) under Pub. L. 89-670, App. D-2m, and basically under Sec. 9 of the 1899 Act, App. D-2a.

(7) Other federally conducted or sanctioned work such as channels, highways, airports, transmission lines, etc.

(8) Steam electric plants and other facilities using natural waters for cooling will be the subject of a separate handbook. They are covered here in summary fashion because they frequently require a permit from the Corps under Sec. 10 of the 1899 Act and a NPDES permit under Sec. 402 of the FWPCA as well as a construction permit and operating license from the NRC (Nuclear Regulatory Commission) if nuclear fueled.

B. Corps, EPA, and Coast Guard permits. (1) The Secretary of the Army is authorized by the Act of March 3, 1899, to issue permits to construct piers, jetties, or similar structures, or to dredge and fill in the navigable waters of the United States. This authority is assigned to the Corps, except that the Coast Guard, Department of Transportation, issues permits for construction of bridges and causeways over navigable waters as provided in Pub. L. 89-670, the Department of Transportation Act.

(2) The 1899 Act makes it unlawful for anyone to conduct any work or activity in navigable waters of the U.S. without a Federal permit. Government agencies, Federal, State, and local, as well as persons, corporations, and other entities must apply for a permit when they propose works or an activity in such waters, and they must obtain a permit prior to commencing the construction or other activity.

(3) Dikes, dams, and similar obstructions to navigation require the consent of the Congress as well as approval of plans by the Chief of Engineers and the Secretary of the Army (see App. D-4a, Sec. 9) unless the navigable portions of the involved water body lie wholly in one State. In the latter case the structure may be built under authority of the State legislature but the plans and any modification thereof must still be approved by the Chief and the Secretary.

(4) When the District Engineer (CE) or District Commander (CG) receives an application for a permit, he routinely issues a public notice given the details of the work to be performed under the permit. These notices are distributed to the appropriate Service regional and area offices and to other bureaus of Interior, the EPA, the National Oceanic and At-

mospheric Administration (NOAA), and other Federal or State agencies and interested individuals, usually with a day deadline for receipt of any comments and recommendations.

(5) The authority of the Corps to issue permits for the discharge of refuse into or affecting navigable waters under section 13 of the Act of March 3, 1899, was greatly modified by the Federal Water Pollution Control Act Amendments of 1972 (Sec. 2 of Pub. L. 92-500, October 18, 1972).

No Section 13 permits may be issued henceforth by the Corps for the discharge of pollutants into navigable waters from point sources. Section 13 permits in existence and pending applications for such permits for point sources were made one with the NPDES permit system administered by EPA or the State with EPA oversight under Section 402 of the FWPCA. Section 13 remains a viable prohibition against any type of unauthorized discharge or deposit covered by this section for which application for permit has not been made and against certain other violations. Permits for disposal or deposit of dredged or fill material in navigable waters, issued by the Corps under Section 10 of the 1899 Act, now require approval of EPA under provisions of the FWPCA relating to these permits and those for disposal of sewage sludge. Note also that under Section 403 of the FWPCA, special provision is made for control of ocean discharges, through NPDES permits. Transportation for and dumping of materials in ocean waters controlled by EPA and the Corps provisions of the Marine Protection, Research, and Sanctuaries Act of 1972 (Pub. L. 92-532, October 23, 1972; App. D-2x).

(6) The Coast Guard processes applications for bridges and causeways much the same as the Corps does applications for other work (see flow chart App. B-4a). Service review and reporting on CG applications is similar to those for the Corps, with the substitution of proper agency references.

(7) The processing of NPDES permit applications by the EPA or the States and of ocean dumping permits by EPA will provide for review and comment by the Service at the Regional Office level much the same as with applications handled by the Corps. Each Regional Office must assure itself that it is properly notified of permit applications and apprised of actions related to the Service interest in these new programs approved in 1972 (see App. D-2s and D-2x).

(8) The Department has no inter-agency agreement with the Department of Transportation (Coast Guard) or with the EPA on procedures for Secretarial review as it has with the Department of the Army (Memorandum of Understanding of July 13, 1967, see App. E-3) so that any issues that cannot be resolved at the Regional Office must be submitted to the Central Office for resolution on a case-by-case basis.

C. Permits involving both Federal public lands or other Federal responsibility and navigable waters. (1) Various private works and activities are permitted

on Federal public lands, e.g., mineral exploration and development, canal and transmission line crossings, hydroelectric power development, etc. Other works include the federally assigned responsibility, nuclear steam-electric powerplants, and works and activities when they impinge on navigable waters also require a permit under Section 10 of the 1899 Act. They also may require other permits for discharges or materials dumping and water quality certifications and marine sanctuary certifications under the FWPCA or the MPRSA.

(2) Construction, operation, and maintenance of physical structures of hydroelectric projects licensed under the Federal Power Act do not require such separate permits because all public interest aspects including navigation are provided for under the Act. However, plans for any dam or other structure of the FPC project that affects navigation must have the approval of the Chief of Engineers and the Secretary of the Army. Also, any dredging, filling, discharge, or disposal related to an FPC project but not constituting construction, operation, or maintenance of the project's physical structures does require Federal permits of the Army. Some FPC licensed works and related activities also may require an NPDES permit and water quality certification.

(3) Outer continental shelf and other public land leases for oil and minerals exploration and development are executed by the Secretary of the Interior through the Bureau of Land Management and permits for drilling and other mineral developments are issued by the Geological Survey with the advice of Interior bureaus.

Also Interior bureaus, the Forest Service, and other Federal land management agencies issue rights-of-way and other permits which, in particular cases, involve navigable waters. It is apparent, therefore, that related navigation permits issued by the Corps and Coast Guard and NPDES permits issued by EPA or a State to cover these may involve two separate Service reviews.

(a) Any Service review of inhouse Interior leasing and permitting actions, excepting rights-of-way, usually has taken place at the Washington level. Procedures for interbureau coordination within Interior on the selection of areas to be offered for lease sales and as to conditions to be included in drilling and other exploration and development permits to be issued by GS are the subject of an interbureau memorandum of understanding (App. E-2) and detailed procedural guidelines are being developed.

(b) Rights-of-way applications made to Interior bureaus and the Forest Service are normally reviewed by the Service at Regional Office level on a case-by-case basis under somewhat loosely defined procedures similar to those for Federal projects.

(c) Dr. King's September 23, 1971, instructional memorandum and enclosures on outer continental shelf lands (App. E-9) explain the procedures with respect to applications for Section 10 permits of the Corps on these Interior approved

activities. Essentially, District Engineers of the Corps review applications for permit on outer continental shelf activities only from the standpoint of navigation and national security.

The Secretary of the Army desires and has asked Interior to provide the District Engineer with assurance in writing for each application related to outer continental shelf lands "that fish and wildlife and other environmental matters were reviewed and that there is no objection . . ." to the issuance of a permit. Interior has agreed to this procedure based on the fact that the Secretary has adequate authority to protect the environment through leasing and regulatory authorities on the outer continental shelf lands. No doubt the Corps will want similar assurance on other applications where the primary approval is given by Interior. Likewise, the Coast Guard will want such assurance in similar situations.

(4) No definite arrangements have been made for interbureau review in Interior of the permits for use, occupancy, filling, and excavation of tidelands and submerged lands of Guam, the Virgin Islands, and American Samoa issued by the Secretary although those related to the Virgin Islands have been informally conducted at regional level. Efforts are underway to develop suitable comprehensive procedures.

(5) As noted above, activities primarily approved by Interior may also require a Corps permit, processed at regional level. In these cases the Corps permit is issued subsequent to the Interior permit and, as noted, is only addressed to navigation and national security with Interior having full responsibility for environmental matters. Other permits and certifications under the FWPCA and the MPRSA also may be involved.

In all of these cases where two or more Federal permits are required for a particular work or activity, great care must be observed that the Service position is consistent. If it is found impossible to be consistent due to change of circumstances as between separate reviews, the change of position should be reviewed within the Department and clearly explained to the Corps of Engineers. Similar care should be taken with review of environmental impact statements which may be handled at a different time or by a different reviewer than the related permit or license.

D. Federal and other dredge and fill activities. (1) The Corps itself conducts dredge and fill activities both by contract and with its own equipment largely in relation to its responsibilities for flood control and maintaining navigation channels, harbors, and beaches and other civil and military works. These activities and works are subject to provisions of the FWPCA and MPRSA as well as NEPA and the Coordination Act. Public notices of intention to conduct such work usually are distributed in the same way as notices of permit application and deadlines for response are similarly short.

Dredge and fill work conducted in relation to original construction or major modification of Federal or federally as-

sisted navigation and flood control projects normally is known to the Service long in advance, and reviews of proposals for such work are programmed, budgeted, and scheduled in consonance with the lead agency reporting schedules.

(2) As to dredge and fill activities conducted on non-navigable waters in relation to transmission and pipeline crossings and other riparian installations, the Service may not receive adequate early notice. Belated notice may be received through circulation and review of environmental impact statements prepared under NEPA. Notice on highway and airport projects should be received from the Department of Transportation under provision of Sec. 4(f) of the Department of Transportation Act (App. D-2m) and Sec. 16(c)(4) of the Airport and Airway Development Act (App. D-2t). Notice may also come in certain cases from applications to the Bureau of Land Management or other land management bureaus of the Department, including the Service, or the Forest Service for rights-of-way across Federal lands.

(3) Dredge, fill, and other activities conducted in or so as to affect navigable waters by Federal agencies in relation to their land management and other functions also are subject to provisions of Sec. 10 of the 1899 Act and to those of the Federal Water Pollution Control Act. Thus, for example, the Service's activities in improving tidal marshlands on its coastal refuges require a Federal permit if they involve navigable waters and wetlands. Similarly, the Service's facilities on navigable waters require a NPDES permit from EPA. The Service, as well as other Interior bureaus and other Federal agencies, must be especially vigilant to avoid real or apparent violations of the law lest their sincerity and dedication to environmental preservation and restoration become suspect.

E. Detection of violations of the Interstate Land Sales Full Disclosure Act.

(1) The Department of Housing and Urban Development (HUD), Office of Interstate Land Sales Registration (OILSR) has requested and the Service has agreed to cooperate through its permit review activities in the detection of violations of the Interstate Land Sales Full Disclosure Act (App. D-2u). Essentially the Service has agreed to provide all practicable cooperation and specifically to provide to the Administrator of OILSR copies of all reports to the Corps on suspected unauthorized activities and of all comments on major permit applications.

(2) Detailed procedural guidelines on this coordination are provided in Instructional Memorandum RB-46 (App. E-23).

1.3 Ecological services activities involved. Sec. 2 of this handbook presents an overview of the objectives and policies of the Service applicable to the activities covered in the handbook. Detailed policy guidelines are presented in Sec. 5 and detailed procedural guidelines are presented in other sections as follows:

- Sec. 3, preliminary screening of proposals.
- Sec. 4, field investigations.
- Sec. 7, reporting, including reviews of environmental impact statements and reporting apparently illegal activities.
- Sec. 8, surveillance of illegal work and monitoring of ongoing and completed work.
- Sec. 9, education of the public.
- Sec. 10, hearings and court testimony.

2. Objectives and policies.

2.1 Objectives of the Department and Service in relation to dredge and fill and other water-related activities are to protect and preserve fish and wildlife habitat, conserve fish and wildlife resources, and protect public trust rights of use and enjoyment in and associated with navigable and other waters of the United States.

A. The Service strives to meet these objectives by encouraging developers to use every possible means, method, and alternative (including non-development) to prevent harmful environmental impacts and degradations, to restore habitat, and increase opportunities for public use through proper development and land use control.

B. The Service also assists, within the limits of its resources, the programs of other agencies, and especially those of other Interior bureaus dedicated to the public interest in man's environment.

C. More specifically the Service, through taking of every appropriate, useful action, has the following long-range objectives or goals:

(1) Respecting navigable waters, their tributaries and related wetlands of the United States:

(a) Stopping and remedying all illegal activities which are damaging or posing a threat of damage to the naturally functioning aquatic and wetland ecosystems or the dependent human uses and satisfaction, and assisting the actions of other bureaus in protection of environmental resources, values, and uses for which they and the Department of the Interior have responsibilities, including natural, cultural, and general recreational resources, values, and uses, and the water quality aspects of such values and uses.

(b) Ensuring that all authorized works, structures, and activities are (1) judged to be the least ecologically damaging alternative or combination of alternatives (e.g., all appropriate means have been adopted to minimize environmental losses and degradations) and (2) in the public's interest in safeguarding the environment from loss and degradation. Water dependency of a work, structure, or activity will be considered when criterion (1) above has not been met.

In determining whether criteria (1) and (2) have been met, the Service will always consider: (a) The long-term effects of the proposed work, structure, or activity; (b) its cumulative effects when viewed in the context of other already existing or foreseeable works, structures, or activities of the same kind; and/or (c) its cumulative effects, when viewed in the context of other already existing or foreseeable works, structures, or activities of different kinds.

(2) Respecting all other waters and wetlands of the Nation not determined to be navigable waters in the context of Federal law, particularly with respect to proposals, activities, and sanctioning actions of the Federal Government and where the concerned resources involve a national interest: long-range objectives or goals are identical to those above-stated for navigable waters, insofar as legally possible.

2.2 Policies. A. The Service exercises and encourages all efforts to preserve, restore, and improve the fish, wildlife, and naturally functioning aquatic and wetland ecosystems and assists in the preservation of other environmental resources of the Nation, for the benefit of man.

(1) The Service reviews, investigates, and cooperates fully in providing ecological advice on formulation of Federal and federally permitted, assisted, and sanctioned plans for activities and developments in the Nation's waters and wetlands under provisions of the Fish and Wildlife Coordination Act, App. D-2a.

(2) The Service prepares comments and recommendations on proposals for Federal and federally permitted, assisted, and sanctioned activities and developments in the Nation's waters and wetlands.

(3) The Service provides technical guidance and assistance to government agencies and concerned citizens on environmental aspects of management of waters and wetlands. It encourages development and adoption of comprehensive regional and statewide plans for the management of such waters and lands as anticipated by the Water Resources Planning Act, the Estuary Protection Act, the Coastal Zone Management Act of 1972, as provided by certain State and local zoning actions, and as may be provided by any comprehensive national land-use act.

(4) The Service encourages and provides technical guidance and assistance to local and State programs, symposia, and other organized efforts designed to further public education and awareness of environmental values and actions to abate threats to waters and wetlands of the Nation.

(5) The Service assists all Federal agencies involved in planning construction or permitting and licensing activities in the Nation's waters and wetlands to meet their responsibilities under Section 7 of the Endangered Species Act of 1973. This includes helping to ensure that the continued existence of an endangered or threatened species is not further jeopardized nor will the actions to be taken result in the destruction or modification of such species habitat that is determined critical. Such assistance should enable these agencies to avoid initiation of proposals which could place such species or their critical habitat in jeopardy.

(6) The Service assists particularly other bureaus of the Department of the Interior in meeting their special responsibilities for the Nation's environmental values, including cultural and natural

values, general recreation values, and water quality, among others.

B. The Service actively discourages activities and developments in or affe the Nation's waters and wetlands w would individually or cumulatively with other developments on a waterway or group of related waterways unnecessarily destroy, damage, or degrade fish, wildlife, naturally functioning aquatic and wetland ecosystems, and/or the dependent human satisfactions. In this, the Service assists other Interior bureaus and seeks their aid in protecting all environmental resources under the purview of the Department of the Interior.

(1) The Service considers navigable waters to include all waters, water bodies, and wetlands subject to Federal jurisdiction under provisions of the River and Harbor Act of 1899 and the Federal Water Pollution Control Act Amendments of 1972, as clarified by Federal regulations and court decisions or as modified by Federal law.

(a) For nonwater-dependent works, particularly where biologically productive wetlands are involved and alternative upland sites are available (as may be suggested from field appraisal—see Sec. 4.1A—by a Service biologist), the Service usually recommends denial of a permit unless the public interest requires further consideration. Further consideration may be indicated by an approved land use plan (see Sec. 5.2A(2)) or in the absence of such a master plan, from the determination made by the responsible Federal regulatory agency after careful weighing all factors relevant to the public interest and reflecting the national concerns for both protection and utilization of important resources (see paragraphs (f) and (g) (3) of 33 CFR 209.120, App. D-4a(2)).

(b) For water-dependent works, the Service discourages the occupation and destruction of biologically productive wetlands and shallows. The Service usually recommends that the site occupied involve the least loss of area on the least valuable of the alternative sites; that avoidable loss or damage to such productive wetlands and shallows, their fish and wildlife, and their human uses be prevented; and that any damages or losses of such resources, proved unavoidable, be reasonably mitigated or compensated.

(2) The Service places special emphasis on vegetated and other productive shallow waters and wetlands and on fish and wildlife species for which the Secretary of the Interior has delegated and specifically mandated responsibilities:

(a) Wetlands as described in "Wetlands of the United States," Circular 39 of the U.S. Fish and Wildlife Service, published in 1956, republished in 1971.

(b) Estuarine and Great Lakes areas as defined in the Estuary Protection Act, the Coastal Zone Management Act of 1972, and Sec. 104(n) of the Federal Water Pollution Control Act, App. D-20, D-2v, and D-2a.

(c) Migratory birds, anadromous and Great Lakes fishes, and endangered species as defined respectively in the Migratory Bird Treaty Act, Anadromous Fish

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NOTICES

Conservation Act and the Endangered Species Act of 1973, App. D-2b, D-2l, and

The Service alerts NMFS and State wildlife agencies and consults with them on all matters related to their interest and responsibilities in keeping with provisions of the Fish and Wildlife Coordination Act, App. D-2E. In like manner, the Service alerts and consults with the NPS on potential degradations of cultural and natural values, the BOR on recreational aspects, and other agencies, particularly Interior bureaus, on any special environmental or other involvements of the proposed work in their special interest such as BR and GS on water quality and BLM and BIA as well as NPS on involved lands and resources under their jurisdiction (Section 6—Coordination, Liaison, and negotiation).

(4) The Service discourages exclusionary occupation of navigable waters and their shorelines by riparian owners or by anchored boats (see Rec. XVIII of House Report 91-1433, App. D-6) and other cumulatively harmful uses of such waters and shorelines.

(5) The Service requests guarantees that the authorized work is actually carried out as promised and as required by conditions of the permit, provisions of law, or agreements formalized in writing. In appropriate cases, a performance bond may be requested of a private permittee as a condition of the permit. With a Federal project the Service will strive to have important fish and wildlife problems specifically mentioned in the authorizing act.

(6) The Service conducts and urges surveillance of unauthorized activities and developments in navigable waters; identifies and investigates illegal dredging, filling, other work and installations in such waters; reports the illegal work to the Corps or Coast Guard; and otherwise supports Federal actions against violators of Federal law in cooperation with the Solicitor and U.S. Attorneys.

(7) The Service assists and promotes surveillance of navigable waters for unauthorized discharges of harmful pollutants, escape of harmful pollutants from non-point, fixed and deposited sources on upland, spills of oil and hazardous substances, dumping of materials in ocean waters and other water pollution sources endangering fish and wildlife or their uses in cooperation with the EPA, Corps, NMFS, and Coast-Guard; reports water pollution situations harmful to environmental and human-use values to the responsible regulatory agency; and otherwise assists and supports Federal actions against violators of the Federal Water Pollution Control Act and the Marine Protection, Research, and Sanctuaries Act of 1972.

Authorities and references supporting the foregoing Objectives and Policies are included in App. D, E, F, and G.

3. Preliminary screening of proposals.

3.1 *General outline of screening procedure.* A. Upon receipt of notice of permit application or initiation of a study, the proposed work project or activity is first logged and scheduled for investi-

gations and reporting if appropriate. (The logging form presented in App. B-1 is to be used by all offices.)

It is absolutely essential to maintain complete, up-to-date records to assure timely actions and afford an accurate basis for summarizing accomplishments. A flow chart showing action sequence in review of permit applications is given in App. B-4a.

B. All public notices of applications for permits received from the Corps, EPA, or Coast Guard are then screened to exclude from further consideration those where the proposal obviously will have no impact or at most an inconsequential impact on fish and wildlife resources. Such "no-interest" notices are to be appropriately marked to show determination, initialed by the reviewer, its log entry completed, and the notice filed. A response usually is advisable on such notices (see below).

(1) On the basis of notice received, the Ecological Services biologist screens each proposal in his office preliminary to further action so as to determine:

(a) The adequacy of the information supplied and available for proper review.

(b) The apparent environmental significance—what resources would be affected and how seriously? Is the impact of the proposal significant in view of its anticipated direct and secondary effects and in light of existing or potential cumulative effects of similar or other developments affecting the same resources?

(c) The apparent social and economic significance—who would benefit and in what way?

(d) The degree of water dependency.

(e) The apparent need for the work in terms of public health, safety, and welfare.

(f) Whether an environmental statement has been prepared and whether one is necessary or advisable.

(g) The desirability of and apparent opportunities for modifying the design, construction methods, and operating procedures of the proposal and/or selecting an alternative site to minimize environmental damages or restore and improve environmental and social values.

(2) It is the Service position that it is proper to assess the total impact of the total development, including any part to be located on uplands and any secondary effects. The totality of existing and projected cumulative impact of all developments effecting a waterway or group of related waterways and the dependent resources thereof also must be considered.

(3) With Federal proposals for study or work, both new and maintenance, there normally is water dependency and a presumption of Service interest. Excepting periodic maintenance work, the Service activity normally will have been scheduled and budgeted in program documents.

(4) There may appear to be no necessity to respond to notices having no Service interest, but it is usually desirable for a number of reasons to record the lack of interest particularly if response is requested by the lead or regu-

latory agency. (See App. A-1 for suggested form letters for no action cases.)

(5) It is essential to respond within the set time especially where there is Service interest even if the response is only a request for more time. Such timely response will assure that the Corps, EPA, Coast Guard or planning agency will not have cause to act prior to receipt of the Service report.

C. If the applicant has failed to supply needed information this fact is promptly conveyed to the regulatory agency together with a request that the permit application be held in abeyance until the information (including an EIS if found necessary) has been received or otherwise obtained by the Service and adequate opportunity has been afforded for review, consultation, and presentation of recommendations. (See suggested form letter in App. A-2 and information required of applicants by Corps regulation in paragraph (h) of 33 CFR 209.120, App. D-4a(2).)

(1) The Service makes every effort to assist applicants and other project sponsors in a timely manner in formulating environmentally acceptable plans and resolving related problems, but it cannot cooperate or act in the absence of needed information nor without adequate time. The Service will request extensions of time as required to effect a proper investigation and to consummate necessary coordination and negotiations. (See App. A-3 for suggested form letter.)

(2) Where biologically productive wetlands or other ecologically important resources and values are involved, it is the Service position that the burden of proof is on the applicant to demonstrate that his proposal is environmentally sound and in the public interest (see paragraphs (g) (3) (iv) and (h) (3) of 33 CFR 209.120, App. D-4a(2)). Consequently, any delay occasioned by the Service's request for necessary information may derive from the applicant's failure to properly prepare his proposal for consideration of its acceptability. (See the reverse side of the information request form, App. A-2, and information checklist App. B-3).

3.2 *Suggested aids to screening.* It is of great assistance to expeditious screening of applications for permits in navigable waters, as well as to reporting on them, to prepare and maintain in each field office habitat type maps, with related notes and data descriptive of each type, for all waters and wetlands under the purview of that office. The maps should be of sufficient scale and detail to permit ready and certain decisions as to the likelihood of damage and the kinds of habitat and associated species expected to be affected based on the information on, and keyed to, the map.

Useful source books and maps should be kept at hand organized for ready reference. Good general sources include:

A. "The National Atlas" (U.S.G.S. 1970) provides physical data on coastal areas of the United States, pp. 78-84, which although gross for our purposes provide useful checks on landforms, shoreline characteristics, bottom sediments, surface currents, tidal types and

ranges, surface sea temperatures and salinities, and wave heights. Similarly, publications on national and local distribution of plants and animals frequently include maps showing general distribution by species that can serve as gross checks. (See Sec. 9.2D for additional sources.)

B. Many States are now collecting detailed data on their wetlands and most of them have habitat type data published in their files, or in the knowledge of their field personnel and research people. These and other data should be collated and entered on the field office's habitat type maps. Intensive studies on especially critical areas can often be conducted in cooperation with NMFS, State, and university personnel. The latter may be encouraged to involve students in special cases to add to the data base.

4. *Field investigations.* The depth and detail of field investigations varies considerably, mainly in relation to the apparent severity of the anticipated environmental impact and the available Service resources, but also with whether the proposal is Federal or non-Federal.

Normally appropriate studies are programmed, budgeted, and scheduled in advance for Federal proposals while field studies for non-Federal proposals must be done on an ad hoc basis.

Service personnel will at all times act and promote actions by others to achieve an orderly processing of Federal permit applications and planning of federally assisted and Federal projects.

4.1 *Non-Federal proposals—permit applications.* The Service position of the burden of proof being on the applicant to demonstrate the environmental soundness and public interest merit of his proposal implies that the applicant must arrange for any needed detailed field investigations. (See paragraphs (h) (2) and (h) (3), particularly paragraph (h) (2) (vi), of 33 CFR 209.120, App. D-4a(2).) This position certainly must be maintained with respect to planning, design and monitoring studies, but certain investigations must nevertheless be conducted by the Service and others in support of the environmental interests.

A. A reconnaissance of the project area must be made by the responsible Service biologist to provide a first-hand viewpoint and appreciation of the site values and potentials. A field surveillance and appraisal report form (App. B-2) will be completed at the time of the reconnaissance investigation for each permit application which proves to have Service interest to assure that all significant factors are considered. The form should be reviewed prior to taking to the field and partly filled in with the required information that is only obtainable from the permit application and other off-site sources. This completed form is made a part of the permit file.

(1) The field investigator will accomplish the following items of work on-site:

(a) Assess the relative environmental significance of the selected site in contrast to apparent alternative sites.

(b) Assess any possibilities for modifying the proposal to lessen environmental impacts (see Sec. 5 for review guidelines).

(c) Obtain information from knowledgeable local persons on species distribution and diversity, resource uses and values, and public interest relative to private interest.

(d) Determine if work has been started and, if so, its apparent legality.

(e) Document the on-site observations through map notations, photographs, records of interviews, sampling data, physical measurements, and completion of the standard field surveillance and appraisal report form (App. B-2).

(f) Note any potential involvements of other Interior bureaus particularly NPS (cultural and natural values), BOR (wild and scenic rivers, scenic values, general recreation values), BIA and BLM (lands and resources), and BR and GS (water and water quality) and later alert and consult with these agencies.

(2) The appraisal form is designed as both a checklist and a record of the on-site investigation; it must be completed in the field in appropriate part to avoid errors of recall.

(a) Although the field appraisal form may appear to be tedious in detail, the worth of the conscientiously completed form is invaluable to preparation of Service comments and recommendations and to any negotiations that may ensue. Therefore, it is essential that the form be completed as fully as possible in every case selected for field investigation and substantive comment.

(b) Since the details required to be completed are a function of the environmental significance of the proposal, relatively less consequential proposals will involve completion of fewer details of the form.

(c) Where appropriate, the Ecological Services biologists may find it efficient to arrange a joint reconnaissance of the project site with the applicant and representatives of appropriate State agencies, NMFS, EPA, the Corps, or others.

B. *Need for detailed field studies.* (1) Where the reconnaissance appraisal indicates that highly productive habitat would be degraded or lost if the proposal were carried out as planned, it may be necessary for the Service to conduct or arrange for more detailed studies to support its position and to:

(a) Affirm conclusion of species diversity and resource value.

(b) Provide a firmer basis for negotiation with the applicant on project modifications.

(c) Justify recommendations of permit conditions or denial of permit.

(d) Provide data required for administrative or judicial review.

(2) It is the Service position that there exists a national recognition that wetland and shallow water habitats have such high ecological and social values as to admit of their destruction or degrada-

tion only where there is no question that the public interest demands it.²

(3) Widespread national recognition is very helpful to the necessarily expeditious review of permit application; it is not reasonably possible for the Service to conduct field studies sufficient to provide unequivocal ecological answers. A useful discussion of study limitations and values as well as methods is included in App. G-1, taken from a publication of the Atomic Energy Commission.

(4) In view of the national recognition of wetlands values and the inherent limitations of time and resources, the Service will not normally attempt to prove its case in relation to permit applications by assembling detailed, on-site ecological or use data. On-site reconnaissance, as discussed above, will nevertheless be detailed enough to generally and accurately define the resource conditions and values. Proof normally will be supported by reference to in-depth studies such as those of ecologist, Dr. Eugene Odum and others (App. G-4 and G-5), the logic of universal dependence of marine and estuarine ecosystems and related resource values on shallows and wetlands, and the great body of long-standing law recognizing the public trust rights in the lands involved (App. D-1b and D-3b).

(5) Permit applications involving steam-electric, steel, paper, petroleum, chemical, and other industrial plants having thermal and other pollutant effects on natural waters often require pre- and post-project studies, monitoring of environmental changes, and mathematical and hydraulic model studies. The predictive studies should be conducted on-site where possible, control studies for the monitoring should be conducted at the site pre-project and at an appropriate nearby site post-project.

Certain dredge and fill projects and many Federal navigation, hurricane protection, and beach erosion-control projects also should be subjected to model and monitoring studies to predict and measure environmental impacts—all with a view to improving designs in the interest of the environment.

(6) Detailed studies are generally the responsibility of the project sponsor. The Service has neither the fiscal and manpower resources nor the responsibility to conduct model, monitoring or other detailed studies, but it does have the responsibility to insist not only that they be conducted but that they be done in a scientific, objective manner.

Nevertheless, detailed field investigations by the Service are required in support of testimony in judicial and quasi-

² As evidenced in Federal law, App. D-2f, o, and v; in Federal regulations, see paragraph (g) (3) of 33 CFR 209.120, App. D-4a(2); by the President's Environmental Message of February 8, 1972, App. D-4a; and otherwise in executive policy, particularly EPA's wetlands policy, App. F-2a, b, and c; as well as in wetlands laws of many States. See also App. G, especially G-4 and G-5, for the scientific basis of this recognition.

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Judicial hearings and occasionally for other purposes, as outlined above. Guidelines for such detailed investigations are found in Sec. 10.2 of this handbook.

Federal Surveys and Project Programs—A. Programmed work.

(1) The Service has the responsibility under the Fish and Wildlife Coordination Act, the Anadromous Fish Conservation Act, the Estuary Protection Act, the Fish and Wildlife Act of 1956, the Watershed Protection and Flood Prevention Act, and other authorities to conduct field investigations related to Federal and federally assisted water development surveys and project studies. These investigations are normally programmed, budgeted, and scheduled in harmony with the schedule of the lead Federal agency.

(2) The investigations conducted by the Service in relation to studies of Federal agencies are generally of greater depth and detail than those described above for non-Federal proposals. They should be of comparable detail to those conducted by the lead agency. Principles and guidelines for these investigations are presented in the Division Manual, Secs. 2.300 through 2.999.

B. Maintenance and emergency work.

Certain types of Federal work such as the maintenance dredging of navigation channels conducted by the Corps and emergency flood disaster activities in streams conducted by the Corps, Bureau of Reclamation, and the Soil Conservation Service must be investigated and reported upon on an ad hoc basis and in a manner similar to that described above for non-Federal proposals, except that responsibility for needed fish and wildlife studies largely devolves on the Service, NMFS, and the State fish and game agency. Consequently, the Ecological Services field supervisor must maintain liaison with the Federal and State agencies and their personnel responsible for these kinds of activities to assure himself that proper notice is afforded and opportunity provided to make field investigations and timely recommendations.

4.3 Investigations of unauthorized work and activities. A. Service personnel must maintain continuous surveillance of navigable waters of their area of responsibility to detect any unauthorized work in a timely manner (see also Secs. 5.2B, 6.3, 7.3 and 8 and App. B-4b and B-5).

(1) Offices of the Division should make necessary arrangements to serve as clearinghouses for alerts from Service personnel and cooperating NMFS and State personnel who detect unauthorized work and Division personnel must investigate and report on each such alert.

(2) Service personnel should arrange for all possible assistance from and cooperation with NMFS and State personnel as well as others with like interests to increase their effectiveness.

(3) Service personnel should cooperate fully with the Corps, Coast Guard, and the EPA in such surveillance and with the Department of Justice in any subsequent enforcement actions.

B. Field surveillance investigations of an apparently unauthorized work or activity must be circumspect on site and confined to making as complete an assessment of the facts as possible. In no event should the investigating biologist voice any allegations of illegality, accuse a person of improper action, or take any other direct action to stop or alter the observed ongoing activity.

C. A field surveillance and appraisal report form (App. B-2) is completed on site as fully as possible keeping in mind the items outlined in Sec. 4.1A, above. Particular attention must be given to obtaining full coverage of the activity site and area of influence with good photographs and to obtaining other evidence (water and biological samples) demonstrating the kind, location, and effects of the observed activity. If possible, the investigating biologist should use a camera providing positive prints directly upon exposure (Polaroid) or take care that the photographic as well as other evidence submitted to other persons for processing is properly certified by use of a "transfer of evidence" form (see note on the back of the first page of App. B-2 form).

D. Following discovery and appraisal of an apparently illegal activity, the regulatory agency will be immediately contacted to determine if the work is being done lawfully. If it is not, the Regional Director will promptly request the regulatory agency to issue a cease and desist order. A flow chart of surveillance actions is given in App. B-4b, and related guidelines are presented in sections 5.2B, 6.3, 7.3, and 8.

5. Policy guidelines for Review of proposals.

5.1 Basis. A. In discussing a proposal with its sponsor and in developing written comments and recommendations to assure that the proposal can be implemented without significant damages to fish, wildlife, and related environmental resources under purview of the Service and the Department (being alert for potential adverse environmental effects in the province of other Interior bureaus so as to coordinate and exploit mutual concerns), Service personnel will observe the policy guidelines set out in this handbook. (App. D, E, and F provide legal references and official policy statements relevant to these guidelines.) In a like manner, the Service will maintain close cooperation and coordination with other State and Federal agencies (Section 6—Coordination, Liaison, and Negotiation).

B. To account for local or regional peculiarities of geography, resources, and social, political, institutional and economic constraints, special adaptations and modifications of these guidelines may be proposed for approval and may be subsequently adopted. Also, more detailed guidelines covering particular situations may be proposed in the future and adopted as required, such as for mineral exploration and development, powerplants, high marsh areas, etc.

C. The Service's policy and procedural guidelines expressed in this handbook are intended to be compatible and reason-

ably consistent with relevant provisions of law, decisions of the courts, and rules, regulations, and administrative practices of Federal regulatory agencies. But the Service does not have the responsibility, as do the regulatory agencies, of making the final determination of the overall acceptability of a proposal, all factors considered. These guidelines are not intended nor should they be interpreted to be addressed to such final decision. They are intended to reflect the Service responsibility to contend for the special public interests in fish and wildlife, their related habitats and ecosystems, and the human uses and environmental values dependent on such resources.

D. Service personnel must critically note that each guideline is qualified to admit of reasoned interpretation on the merits of a particular proposal in its particular ecosystem setting and must be so interpreted in each case. Blanket, absolute opposition to any specific type of development or site situation must not be construed from the language of any policy or policy guideline of this handbook. Each proposal must be weighed on its individual merits not only in the light of the main thrust of applicable guidelines but in light of the qualifications of these guidelines, the specific biological and environmental conditions of the proposal site, and the particular expected environmental impacts of the proposal.

5.2 General policy guidelines—A. New work proposals. (1) Encroachments into navigable waters and wetlands will be discouraged where such encroachments would significantly damage biologically productive shallows and wetlands or unreasonably infringe on public rights of access, use, and enjoyment.

(2) Sites and design will be encouraged to be in compliance with any applicable comprehensive regional or statewide plan for land use and/or shoreline development which properly balances public needs and properly accommodates site and upland drainage, waste discharges, and erosion forces (as indicated by plans developed by the State under the Coastal Zone Management Act of 1972 and by a State under any State land use act that may be applicable).

(3) A proposal which in combination with other developments would, due to cumulative effects, unreasonably degrade environmental resources or diminish the human satisfactions dependent on such resources on a waterway or group of related waterways will not be acceptable to the Service and will be strongly discouraged.

(4) Nonwater-dependent structures, facilities, or activities generally will be considered by the Service to be unacceptable uses of public waters unless it has been demonstrated that the proposed use is required in the public interest (see Sec. 2.2B(1)) and no alternative site mutually acceptable to the Service and the applicant is available.

Although in many cases a restaurant, motel, trailer park, golf course, or other service facility may be more attractive to its customers if it has water frontage, this attraction does not necessarily re-

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quire encroachment into navigable waters and wetlands. A set-back location that preserves public access to the water usually can provide as good or better water view, assure greater safety from storm hazards, and otherwise accord more fully with both the private and public interest.

(5) Proposals to fill ecologically valuable wetlands or site sewage lagoons or other treatment works on them will be discouraged, and where no feasible upland site for such works is available, the Service will urge adoption of tertiary treatment processes which do not require lagoons or other extensive works with consequent destruction of wetlands (see EPA's wetlands policy, App. F-2a, b, and c).

(6) The Service will object to or request denial of Federal permit for any proposed project not properly designed or located to avoid preventable significant damages to fish, wildlife, and/or other environmental values.

B. Unauthorized work and activity in navigable waters and applications for after-the-fact permits therefor. Unauthorized excavation, fill, structure, facility, building, or ongoing activity in or affecting navigable waters will be considered to be in violation of the law as prescribed in the River and Harbor Act of 1899, App. D-2a; the Federal Water Pollution Control Act (Sec. 301), App. D-2s; and the Marine Protection, Research, and Sanctuaries Act (Sec. 101), App. D-2x. See also Secs. 4.3, 6.3, 7.3, and 8 of this handbook for other aspects of unauthorized work.

(1) Where necessary to achieve removal of unauthorized harmful works and/or obtain other appropriate remedy, the Service will request the responsible Federal regulatory agency to institute enforcement action, including judicial procedures through the Justice Department if required.

(2) The Service may, where immediate action is warranted to avert great loss of fish and wildlife or their habitat, request the Solicitor, Department of the Interior, to take any appropriate steps to speed legal action.

(3) Where after-the-fact application is made for existing work which resulted in significant environmental damage, the Service will confer with the responsible Federal regulatory agency to assist it in determining the need and the possibilities for restoration and compensation of damages to fish and wildlife, their habitat, and related human use values.

(4) If legal action is not taken or is taken and fails adequately to remedy the damage, the Service will continue to aid negotiations with the applicant, seek appropriate conditioning of any permit, and take such other remedial measures as are available.

(5) Where satisfactory means and measures for restoration and compensation have been imposed upon or negotiated with the applicant, Service personnel will urge that the permit include conditions to assure their implementation.

(6) The Service may ask that the applicant be required to furnish a performance bond when there appears to be substantial risk of non-performance.

(7) In case of judicial action, Service personnel must expect to testify with appropriate Departmental clearances required and to have developed substantial evidence in support of the environmental aspects of the case. In such event, expert opinion is only a feeble substitute for firsthand testimony based on in-depth investigation (see Sec. 10).

C. Proposals determined to be acceptable. (1) The Service will urge that the applicant be required to provide assurances, through acceptance of permit conditions, that the works will be built and operated in such a way as to minimize the impact on fish and wildlife and the detriments to the public interest in the lands and waters affected.

(2) In cases where compensational measures are developed with the applicant to protect the resources, the natural functioning ecosystem, and other environmental values, Service personnel may recommend that a performance bond be required of the applicant to guarantee implementation of the compensational measures.

(3) Assurances for Federal projects will be obtained by the Service through clear and specific inclusion of means and measures in project authorizing documents and diligent follow-up during construction and operation.

5.3 Detailed policy guidelines. Service personnel will observe additional detailed guidelines in screening and reviewing permit applications and Federal proposals as indicated below for particular types of projects (Note that where excavation of fill or deposition of spoil are involved in a proposal, the guidelines of items I or J are applicable in addition to the guidelines listed for the specific main proposed works or activity):

A. Docks, moorages, piers, and platform structures. (1) In crowded areas, individual single-purpose docks will be discouraged, and multiple-use facilities common to several property interests providing common pollution control works and minimizing occupation of public waters will be actively encouraged.

(2) Joint-use moorage facilities will be encouraged for subdivisions, motels, and multiple dwellings in preference to individual moorage.

(3) The size of docks and piers and their extension beyond the normal high water line will be recommended to be restricted to that required for the intended use.

(4) Anchor buoys will be encouraged in preference to docks.

(5) Piers or catwalks will be encouraged in preference to fills to provide needed access to navigable water.

(6) Dry storage on upland will be encouraged for small boats in preference to water moorage in crowded areas.

(7) Removal of docks, piers, or platform structures in existence without a Federal permit will be recommended where practicable and especially where the particular structure is found to in-

terfere with or preclude preservation, management, or utilization of fish and wildlife resources and other environmental values.

(8) Removal will also be recommended of all piers and similar structures receiving little use, in a state of disrepair, and/or serving no demonstrated public purpose.

(9) Overwater location of apartments, shops, restaurants, and other nonwater-dependent facilities on pile structures or fills will generally be viewed by the Service as destructive intrusions upon the aquatic environment. Denial of a permit for a structure intended solely for such uses will be recommended unless it is clearly shown that the particular structure is required in the public interest (see Sec. 2.2B(1)(a) and Sec. 5.2A) and no alternative site mutually acceptable to the Service and the applicant is available.

(10) Permits for docks, piers, and other overwater structures will be recommended to be conditioned to require removal once the structure no longer serves the purpose for which it was originally permitted.

(11) Houseboat anchorage and moorage in public waters outside of publicly established harbor areas for more than 30 days will be discouraged.

(12) Service review of applications for the repair or replacement of previously permitted docks, piers, and moorages will be expedited.

B. Marinas and port facilities. (1) Designs that minimize disruption of currents, restriction of the tidal prism, excavation in shallow waters and wetland removal of barrier beaches, and filling shallow waters and wetlands that do occupy waters with poor flushing characteristics or sites with high siltation rates; and that preserve environmental values in general will be strongly encouraged.

(2) Facilities for the proper handling of boat and site-generated sewage, litter, other wastes and refuse, petroleum products, and precipitation runoff will be insisted upon with all marina and port proposals, including modifications to existing facilities, insofar as required by law.

(3) Regional and statewide planning for balanced land use and specifically to locate suitable spoil disposal sites, reduce unneeded dredging, and properly locate any new or expanded port, other necessary navigation and other water-dependent facilities will be encouraged. Shipping and support facilities including marine railways and launching ramps will be encouraged to make full utilization of developed areas to forestall disturbing new areas of high environmental value.

C. Bulkheads and seawalks. (1) Bulkheads and seawalks generally will be acceptable in areas having unstable shorelines, but their construction will be discouraged where marsh, mangrove, or other naturally protective and productive areas would be disturbed. In the latter situations, any necessary bulkhead should not reflect wave energy so as to destroy productive wetlands. In rapidly eroding situations where natural, pro-

protective vegetation or other controls are inadequate, bulkheads placed in navigable waters may be acceptable if properly designed to mitigate but not aggravate natural forces and processes.

(2) In extensively developed areas, rip-rap and/or designs utilizing natural vegetation will be encouraged in lieu of bulkheads of wood, concrete, or metal. Bulkheads will be acceptable that esthetically and/or ecologically enhance the aquatic environment.

(3) On barrier and sand islands and sand beaches, bulkheads which would adversely affect the littoral drift and natural deposition of sand materials will not be acceptable.

D. *Cables, pipelines, transmission lines, bridges and causeways.* (1) The Service will encourage the establishment of transportation-utility access corridors crossing navigable and other waters and wetlands at sites that localize and minimize environmental impact by limiting the encroachments to least valuable and productive areas.

(2) To be acceptable, aerial or submerged cables, pipelines, and transmission lines must be located and designed for maximum compatibility with the environment. In assessing environmental compatibility, Service personnel will give particular emphasis to the provisions made to protect water quality, fish and wildlife resources (notably, interference with migration routes) and to prevent interference with fishing and other public uses. Where unique natural areas, cultural sites, or significant impacts on scenic beauty or public access appear to be involved, Service personnel will alert and cooperate with concerned Interior bureaus and other agencies.

(3) Alteration of the natural water flow circulation patterns or salinity regimes through improper design or alignment will be discouraged.

(4) Enhancement of public access by the installation of fishermen catwalks, boat launching ramps, or other structural features will be encouraged.

(5) Bridge approaches required to be located in wetland areas will be recommended to be placed on pilings rather than constructed as solid fill causeways.

E. *Jetties, groins, and breakwaters.* Jetties, groins, and breakwaters that do not interfere with or, preferably, that enhance public access, and do not create adverse sand transportation patterns or unduly disturb the aquatic ecosystem will be acceptable. Service personnel will place particular emphasis on preventing project-related erosion and other harmful impacts caused by the installation—such as destruction of sand dunes and beaches and filling of shallows and tidal wetlands due to changes in littoral currents and drift—as well as on protecting fish and wildlife resources and uses.

F. *Lagoons and impoundments.* Lagoons or impoundments for waste treatment, cooling, or aquaculture which would occupy or damage significant wetlands or other ecologically productive areas in navigable waters will be unacceptable to the Service and denial of permit normally will be recommended.

(A NPDES permit is required to discharge from these; see EPA's wetlands policy, App. F-2a, b, and c.)

G. *Navigation channels and access canals.* (1) Construction or extension of canals primarily to obtain fill material will be discouraged or opposed as appropriate.

(2) Designs and alignments should adequately serve the needs of commercial and sport fisheries and other water recreation as well as other demonstrated public needs.

(3) Designs should not create pockets, interior channels, or other hydraulic conditions which would cause stagnant water problems.

(4) Designs should not create or aggravate shoreline erosion problems or interfere with natural processes of beach nourishment.

(5) Channel alignments and spoil sites should avoid shellfish grounds, eelgrass beds, beds of other productive aquatic vegetation, coral reefs, fish spawning and nursery areas, fish and wildlife feeding areas, and other shallow water and wetland areas of value to fish and wildlife resources and uses.

(6) Alignments should make maximum use of natural or existing deep water channels.

(7) Designs should include temporary dams or plugs in the seaward ends of canals or waterways and competent confining dikes around spoiling sites to serve until excavation has been completed and all sediment has settled out.

(8) Designs should not alter tidal circulation patterns adversely, create change in salinity regimes, or change related nutrient and aquatic life distribution patterns.

(9) Construction should be conducted in a manner that minimizes turbidity and dispersal of dredged material into productive areas and on schedules that minimize interference with fish and wildlife migrations, spawning, nesting, or human uses.

(10) In addition, the Service will recommend that the applicant or permittee be required to supply the Service with a schedule of the dredging anticipated during the life of the permit (frequency, duration, type of dredge, amounts of material, etc.) and where appropriate give a two-week notification prior to the commencement of work at each location or phase of construction. Recommendation also will be made to require Service notification when work is completed and the amount of materials removed. Similar advice and notice will be requested for previously coordinated Federal projects.

H. *Drainage canals and ditches.* Construction of canals and ditches that would drain or facilitate drainage of any of the wetland types identified in the Fish and Wildlife Service's Circular 39, "Wetlands of the United States," will be discouraged, and denial of permit usually will be recommended by the Service. Channels draining such wetlands will be acceptable to the Service only where the

following situation has been conclusively demonstrated: Insect vector control or some other public health, safety, or welfare measure is required as a public necessity and drainage would be the least damaging or only practicable means of accomplishment. But in these instances, the quantity and quality of any discharged waters should be controlled as required by the FWPCA and so as not to adversely affect the aquatic ecosystem unduly (a NPDES permit covering such discharges may be required).

I. *Excavation of fill material.* (1) Excavation and dredging in shallow waters and wetlands will be discouraged and any permits issued or Federal work approved will be recommended to be conditioned to prohibit activities in fish and wildlife nursery areas and during periods of migration, spawning, and nesting activity.

(2) Whenever the excavation of fill materials from productive submerged or intertidal wetland areas or from wetland types identified in Circular 39 (see Sec. 2.2B(2)) is considered detrimental to fish and wildlife resources and unacceptable, permit denial for such work will be recommended by the Service.

(3) Uncontrolled stockpiling of dredged material in shallow water or on wetlands to achieve full bucket loads will not be acceptable. Unloading barges should be employed wherever possible to avoid such stockpiling of materials. Where stockpiling is required, the use of competently diked upland areas usually will be recommended.

(4) Excavations should not create stagnant sumps or cul de sacs that trap and kill aquatic life.

(5) Dredging operations should be conducted so as to prevent petroleum spill, deposit of refuse, and avoidable dispersal of silt or other fines or other discharges of harmful materials (a NPDES permit may be required).

J. *Filling and deposition of spoil and refuse materials.* (1) Filling in navigable waters generally will be discouraged and will be strongly objected to where the proposed development is nonwater dependent or would not serve a demonstrated public need.

(2) Whenever the filling of waters and wetlands is considered detrimental to fish and wildlife resources and unacceptable, permit denial for such work will be recommended by the Service.

(3) Spoil confinement works should be properly designed, constructed, and maintained to avoid discharge of fines, other particulates, or harmful material to natural waters and be located on dry upland. The location of outlets and other means of control of the effluent from the spoil retention area should yield water quality that will preserve the aquatic ecosystem (a NPDES permit may be required).

(4) Toxic, oxidizable organic, and other highly harmful materials must be disposed on dry upland areas behind impervious dikes or by other safe and environmentally protective means.

(5) Dikes should be vegetated immediately to prevent erosion.

(6) In-bay, open-water, and deep-water disposal generally will be considered acceptable by the Service only after all upland and other alternative disposal sites have been explored and rejected for good cause. Deep-water disposal will be acceptable only at sites designated under State or Federal regulations or at sites specifically selected, including those selected for deposit of clean material for habitat improvement, where agreed upon by all concerned agencies.

(7) Sediment and/or effluent analysis will be recommended to be required in cases where there is suspected contamination by heavy metals or other toxicants. In cases where contaminant levels are high, the Service will either urge disposal on fully confined impervious upland sites or by other safe and approved means, or recommend denial of permit application.

(8) Turbidity and dispersal of dredged material will be recommended to be controlled in relation to open water dredging and disposal by means of fine-meshed curtains or other effective means.

(9) The foregoing guidelines on spoil deposition are also particularly applicable to Federal channel excavation and maintenance.

K. Mineral exploration and development, territorial waters. (1) To be acceptable, blanket permits issued for mineral exploration and development (including oil, gravel, sand, fossil shell, phosphates, sulfur, salt, placer metals, etc.) must be limited to the shortest time period essential to the work proposed and should provide by explicit conditions of the permits for such of the following that can be utilized to minimize environmental degradation: Areal exclusions; special exploration and development procedures (e.g. slant drilling); use of special equipment (e.g. use of shallow draft barges and low-impact swamp vehicles on wetlands); and limitations on dredging, filling, and spoiling (i.e. use of existing channels wherever possible rather than new ones, avoidance of productive wetlands and shallows for filling and spoiling, etc.).

(2) To be acceptable, proposed activities and works must be described as fully as possible in the original permit application, and to the extent that these cannot be described for the entire extent of the work and period of the permit, the undescribed extension and modifications when known and proposed must be subject to provision of adequate notice and opportunity for on-site assessment of potential environmental impact by the Service or its designee, and the permit must be further conditioned as may be required to protect environmental resources on the basis of such recommendations as the Service may make.

(3) To be acceptable, proposals must meet the applicable general and detailed guidelines set out hereinabove for other particular activities and works involved in the proposed mineral exploration and development.

(4) To be acceptable, proposals must make adequate provisions to keep environmental degradation to the minimum,

particularly that from spillage of oil; release of refuse including polluting substances and solid wastes; spoiling on productive wetlands; dredging of productive shallows; and alteration of current patterns, tidal exchanges, freshwater outflow, erosion and sedimentation.

L. Mineral and other developments, including rights of way, on public lands.

(1) As discussed more fully in Section 1, Interior bureaus and other Federal land management agencies are involved variously in leasing lands and granting permits for rights of way, mineral exploration and development, hydroelectric power development, and other activities on public lands of the United States. To the extent that these activities would involve identifiable effects on navigable waters they also require a permit from the Corps or Coast Guard under the 1899 Act and/or the Federal Water Pollution Control Act Amendments of 1972, and in certain cases a NPDES permit from EPA or the State.

(2) These guidelines do not cover procedures for the intra-Interior review of outer continental shelf and other public lands, mineral leases, and permits nor rights-of-way permits, but it is expected that Service personnel will apply any of the pertinent policy guidelines of this handbook as are appropriate.

(3) Corps, Coast Guard, and EPA permit applications covering such activities should be reviewed in the field for potential site-specific impacts as with any other permit, keeping in mind, however, that general protective conditions are included in the Interior permits which are deemed adequate for all known situations and contingencies and that known highly damageable areas have been excluded from the lease offers and use permits for lands of the Territories.

(4) If a particular case appears to the reviewing biologist to involve substantial impacts of a nature not certainly covered by conditions of the Interior permit, he should initiate action to so notify the district or regional office of the concerned regulatory agency and the responsible office of the concerned Interior bureau or for the Territory. If the responsible local Interior office cannot satisfy the Service concern, the matter should be referred to the Central Office for resolution and the district or regional office of the regulatory agency should be so apprised.

M. Log handling, moorage, and storage.

(1) Log handling, moorage, and storage sites proposed to be located on salmon-spawning and other fish productive streams, shellfish grounds, or shallow water and wetland areas of value to fish and wildlife resources and uses will not be acceptable to the Service.

(2) Log handling, moorage, and storage in public waters will be discouraged, particularly where such activities would obstruct or impede public access, fishing, hunting, and other legitimate public uses of the water body; degrade and destroy fish and wildlife resources; or otherwise degrade environmental values.

(3) Environmentally sound practices of log handling will be encouraged through recommendations for conditioning of any

required Federal permit or contract and otherwise, as follows:

(a) Use of positive controls over other debris, and leachates, including proper confinement, collection and disposal of all floatable, soluble, and settleable refuse. Rapidly flowing water, steep shores or other sites must be avoided for log dumping where positive controls cannot be effected.

(b) Use of easy let-down devices for placing logs in water to avoid safety and environmental hazards of violent free-fall dumping.

(c) Limiting the quantity of logs and the duration of their moorage and storage in public waters to the minimum required for efficiency.

(d) Use of upland sites for bundling of logs and disassembling the bundles.

N. Steam electric powerplants and other facilities using navigable waters for cooling. Although these facilities will be treated in detail in a separate Steam Electric Powerplant and Cooling Facilities Handbook, broad, general guidelines are included here:

(1) As a general rule, once-through cooling systems will be discouraged and closed-cycle cooling will be encouraged where the facility is proposed to be sited on or so as to affect biologically productive navigable waters. In particular, any facility will be strongly discouraged which would significantly change the environment and values of an estuarine area or other biologically productive navigable water by withdrawal and discharge of large volumes of water—thereby depleting aquatic life by entrainment and impingement; altering the natural or existing regime of salinity, temperature and dissolved oxygen and the patterns of water currents, tidal exchange, volume, tidal excursion, and freshwater flow; disturbing the populations, dynamics, and distribution of aquatic life; scouring productive water bottoms or otherwise endangering the viability and productivity of the ecosystem; and lessening the human satisfactions dependent thereon.

(2) A facility to divert water from and release heated water to navigable waters where proposed to be sited so as to affect harmfully salmonid spawning, rearing, or migration waters or any water or wetland supporting highly sensitive and/or highly valued species of fish or wildlife will not be acceptable to the Service unless such facility is fitted with a closed-cycle cooling system and otherwise incorporates protective features that insure against any significant harm to such species at all times and under all foreseeable conditions.

(3) To be acceptable any facility incorporating once-through cooling involving navigable waters must:

(a) Be sited where wetland destruction, other habitat damage, interference with fish and wildlife and their uses, and overall environmental harm will be at the minimum compared to other possible sites in the region;

(b) Involve a plan layout based on preoperational baseline studies defining current, temperature, salinity, tidal migratory fish or wildlife, and other pa

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terms sufficient to select the smallest and most desirable heat mixing zone, providing adequate zone of passage, and other arrangements, including those of transmission lines and other appurtenant facilities, that will minimize harmful impacts on fish and wildlife, their habitats and uses as well as overall environmental damages;

(c) Incorporate design features and operating programs and rules to avoid all avoidable harm to fish and wildlife, habitats, and uses as well as other environmental resources and uses; specifically:

(i) Incorporate a cooling system design employing the best available technology and combination of facilities to minimize harmful effects on the environment, including: Mechanical rather than chemical scale and algae controls; intake-outlet arrangements which minimize impingement, and entrainment, and damage to productive bottoms; fish bypasses and other saving devices as well as screens at intakes;

(ii) Schedule shutdowns to avoid harm to aquatic life as fully as possible;

(iii) Meet all applicable water quality requirements and goals; and

(iv) Adequately monitor the operations to satisfy the burden of proof upon the permittee or licensee that the foregoing and other appropriate environmental standards are met.

6. *Coordination, Haison, and negotiation.* It is difficult to overemphasize the value of taking steps at the earliest possible time to gain participation in the planning process to permit offering suggestions of modifications and alternatives and discouraging selection of naturally productive sites or harmful methods of development. This is difficult with piecemeal private developments, but even with these, publicizing Service concerns in the media, assisting concerned citizens who responsibly involve themselves in surveillance, accepting speaking engagements, arranging symposia, educating local planning, zoning, and administrative boards, and other means can be of help in the long run.

With Federal activities close liaison by the Division Field Supervisor with the Federal planning agencies usually leads to early notice of actions and invitation to informal consultation during formulation of plans. This early consultation can be the most productive effort made by Division personnel in relation to Federal activities. If possible the consultation should be between the Division biologist and the lead agency planner assigned to the specific survey or project.

The Ecological Services biologist also must maintain early and continuing liaison and coordination with NMFS and State biologists in connection with each assignment. Summary coordination guidelines follow:

6.1 *Coordination with the State, NMFS, EPA, Corps, other Interior bureaus, and other concerned governmental agencies.* A. Early in his review of a proposal, the Division biologist consults with counterparts in other agencies to:

(1) Gather information from knowledgeable experts.

(2) Identify mutual interests and information sources and obtain useful data and views.

(3) Transmit project data to cooperating entities not otherwise supplied.

(4) Arrange any appropriate joint field studies.

B. As his preliminary assessment and field reconnaissance are completed and he prepares his draft report and recommendations the Division biologist continues coordination and liaison with agencies having coordinate and related responsibilities to:

(1) Assess the public interest and other professional opinion on the merits of the proposal and consider proper means of resolving any environmental issues.

(2) Alert other agencies, particularly other Interior bureaus, to any special environmental concerns in their interest discovered in the Service assessment or reconnaissance and explore any mutual environmental involvements of the proposal with such agencies.

(3) Formulate any appropriate joint position on the proposal among agencies having coordinate responsibilities.

6.2 *Coordination with the applicant or Federal Lead Agency.* A. Early consultation with the Federal lead planning agency can often forestall wasteful efforts addressed to environmentally unsound design or site; yet this advantage is normally long past with permit applicants. Improvement in the latter situation may result from educational efforts by concerned entities and court decisions favorable to the environment which encourage prospective applicants to seek early consultation.

B. Negotiation with the applicant or lead agency planner is conducted as appropriate throughout the Service review process.

(1) If the field appraisal has confirmed that the proposal will have adverse effects on fish and wildlife, their habitat or the naturally functioning ecosystem, efforts must be made either through the regulatory agency (in permit applications) or by direct contact with the applicant or lead agency planners, to have the plan modified to minimize damage to the resource base.

(2) The posture to be maintained by the Service representative in negotiating with applicants or lead agency planners should:

(a) Encourage acceptance of the validity of the national recognition of intrinsic high public value of shallow water and wetlands habitats through citation of Zabel 1 Tabb, other Federal case and statutory law, local law (statutory wetlands and zoning laws and related case law), and findings of the Reuss Committee and ecologists (see App. D and G.)

(b) Avoid acceptance of monetary value as the full measure of significance of ecological and other environmental impacts.

(c) Avoid expedient resolution of issues with the sponsor of the work or

activity which do not satisfactorily resolve the environmental issues.

C. If the applicant or sponsor rejects suggestions for making his plans environmentally acceptable, it must be made clear that the burden of proof is on him to demonstrate that such suggestions are infeasible and that his proposal is of overriding public interest. Without such demonstration the Service policy requires that denial of the application be requested or objection to the project be raised as otherwise proper.

D. The assistance of other governmental agencies having coordinate responsibilities and interest should be requested, even urged, in direct participation and support of negotiations. Also, interested private conservation groups should be advised of the Service position.

E. Following successful negotiations, the agreed upon plan modifications for environmental purposes can be handled by:

(1) The applicant submitting a new application with acceptable plan to the permitting authority, which is then specifically comprehended by the permit and its conditions, or

(2) The applicant submitting in writing to the permitting authority his intention to adopt specific plan modifications, thus amending the application, which is then specifically comprehended by the permit and its conditions, or

(3) The Service and Department recommending and the permitting authority adopting the necessary specific conditions or stipulations as part of the permit which fully and specifically comprehend the plan modifications required for environmental and fish and wildlife protection and conservation purposes.

6.3 *Coordination on unauthorized work and activities.* A. The conduct of Service personnel in exercising surveillance investigations must be cautious and above reproach. Their on-site actions must be limited to gathering information on suspected unauthorized work without unduly exciting workmen or the sponsors of the work. (See Sec. 4.3.)

B. Enforcement actions are generally the prerogative of the Corps, EPA, Coast Guard, and Justice. Once Service personnel have obtained the pertinent biological and other information necessary for action on the case and the Regional Director has alerted and formally notified the Corps, EPA, or the Coast Guard, as appropriate, with copy to the Regional Solicitor and to the appropriate U.S. Attorney, the Service should normally defer to the regulatory agency for further action. Where NMFS interests are involved, a copy of the formal notification or report on a violation should be sent to NMFS when the regulatory agencies are informed. Where expedited action is justified by immediacy of the threat to highly valued resources, the Regional Director may seek assistance from the Office of the Solicitor. (See also Secs. 5.2B, 7.3, and 8.)

7. Reporting procedures.

7.1 *Reports and correspondence.* A. Guidelines for preparation and transmis-

sion of routine letters and reports are included in Secs. 3.000-3.999 of the Division Manual. The manual guidelines cover all kinds of river basin activities and should be followed where applicable.

B. Special letter and report formats applicable to review of permit applications are included in App. A. Standard Forms, checklists, and flow charts are included in App. B, and commonly appropriate standard recommendations for permit applications are included in App. C.

C. *General guidelines on report conclusions and recommendations.* Any of the following situations may serve as a basis for Service recommendation of denial of a Federal permit or objection to the authorization of a Federal project for similar work in navigable water. (More detailed general and specific guidelines for determining acceptability of plans are included in Sec. 5, above):

(1) The project or activity will directly destroy, damage, or degrade fish and wildlife, their habitat, or other significant environmental values, including part or all of a natural functioning ecosystem.

(2) The project will lead to, encourage, or make possible the destruction, damage or degradation of fish and wildlife, habitat, or other significant environmental values, including part or all of a natural functioning ecosystem.

(3) Public use of a natural or other environmental resource will be restricted or curtailed.

(4) Public benefits will not clearly exceed public losses, ignoring any private gains not clearly related to health, safety, or protection of property.

(5) The project purposes are not water related or dependent.

(6) Alternative upland sites are available for the proposal which would involve less environmental costs and generally better satisfy the public interest.

D. *Format and disposition of reports.*

(1) Service reports on NPDES permits are submitted by the Regional Director directly to the EPA or the State. Those on nuclear steam-electric plants are submitted through the Director to the Departmental Office of Environmental Project Review for inclusion in the Departmental report.

(2) Service reports on Federal and federally assisted projects are submitted directly to the appropriate office of the sponsoring Federal agency by the Regional Director.

(3) Procedures for review, submission of comments, and resolution of issues on navigation permit applications made to the Corps of Engineers, Department of the Army, are prescribed for all bureaus and offices of the Department of the Interior in 503 DM 1. This Departmental Manual release implements the July 13, 1967, Memorandum of Understanding between the Departments of the Army and the Interior with respect to review of applications for permits for dredging, filling, excavation, and other related work in the navigable waters of the United States issued by the Corps of Engineers. This release assigns responsibility regarding such review to the Director,

Fish and Wildlife Service, and delegates responsibility for coordination among Departmental field offices and for submission of formal Departmental communications with District and Division Engineers of the Corps to the Service's Regional Directors.

(4) A different procedure is to be followed where both the permit application and the related draft environmental impact statements are to be reviewed concurrently as described in Sec. 7.2, below.

(5) Under 503 DM 1 the Service normally has a dual role: providing the consultation and review functions mandated by the Fish and Wildlife Coordination Act and coordination and consolidation of views and recommendations of all Departmental bureaus and offices, including those of the Service, into a formal Departmental letter of comment under Fish and Wildlife Service letterhead.

(6) Informal communications with the Corps by the bureaus and offices are not precluded by 503 DM 1; in fact, each bureau and office is directed to make its own arrangements for receipt of public notices and is encouraged to conduct any necessary informal discussions with Corps personnel.

(7)(a) The role of the Service Regional Directors under 503 DM 1 is to coordinate, collate, and transmit all formal Department communications, including requests for extension of time to respond or for more information and the formal Departmental letters of comment (and/or reports) on navigation permits to District Engineers and where appropriate, to Division Engineers.

(b) The Service Regional Director must assure himself that all interested bureaus and offices of the Department have had adequate opportunity to offer comments and that all substantive comments, timely received, are reflected in the formal Departmental response to the Corps on each permit application.

(c) Any unresolved cases of disagreement among field offices of Interior bureaus will necessarily be submitted promptly to headquarters as will any other case which the Corps has indicated it will refer to Washington under the Memorandum of Understanding or which has become so controversial that either the Corps or the applicant is likely to refer it to Washington (see Sec. 7.1E (3)-(6), below).

(8) The Service does not have the above-outlined coordinating function with respect to EPA or the Coast Guard. Nor does it have such function with any other regulatory agency or in relation to review of any Federal or federally assisted project proposals.

(9) The Regional Director's coordinated letter to the responsible Corps officer prepared under 503 DM 1, although on FWS letterhead, is the official Departmental report on a permit application and is to be so identified in the text of the letter.

(a) The first sentence of the letter report stating the Departmental position should include the Public Notice number and date, the Corps District, the waterway or other locational references, and the State.

(b) Service surveys and investigations on permits, prepared in accordance with provisions of the Fish and Wildlife Coordination Act, are to be incorporated in the letter report to the District Engineer.

(c) In the common case where substantive comments are limited, those of the Service and any compatible views of other Interior bureaus and offices, the letter will incorporate the Service report and the other comments and views and will state that its content represents the Departmental position, or reflects fully the Departmental views and findings on the identified permit application.

(d) Service letters on such matters as unauthorized activities, failure of a permittee to abide by permit conditions, requests for extension of time, etc., may also note Departmental sanction of the concern or request.

(10) Service letters of comment and reports on other than Corps permits do not necessarily represent the Departmental position and should not so indicate unless Departmental sanction has been determined.

(11) The Departmental letter and/or Service report may be released to cooperating State and Federal agencies and the general public once the Departmental or Service letter has reached the District or Division Engineer of the Corps, Regional Administrator of EPA, or District Commander, Coast Guard.

E. *Recording permit actions and filing of reports.* (1) Records must be maintained in the area and regional offices of the disposition of each public notice received, actions taken, reports filed, and any required follow-up activity accomplished.

(a) Regional offices must maintain records of both Service and Departmental actions in keeping with the role of the Regional Directors as Departmental coordinators for Corps permits.

(b) In addition to maintaining a comprehensive log of permit actions, each public notice received should be filed bearing a notation of its disposition and a reference keying it to the entries made on it in the log (public notices deemed not to involve a Departmental or Service interest are nevertheless logged to assure completeness of records and ease of retrieval in event of later action).

(2) Central Office files must not be burdened. As instructed in Dr. King's memorandum of November 14, 1972 (App. E-16) only those file materials on permits specifically requested by the Central Office should normally be submitted. Exceptions are noted in par. 7.1E(5), below.

(3) The Director should be promptly alerted to permit applications and violations involving properties administered by the Service or another bureau of the Department (i.e. refuges, hatcheries, parks, recreation areas, etc.) and to situations involving policy and other significant Departmental or Service interest.

(4) Alerts on permit involvements of other bureaus of the Department should be forwarded through the Director to the

Assistant Secretary for Fish and Wildlife and Parks only where the other bureau requests, or where after notification the other bureau that bureau agrees that inadequate attention was accorded an environmental problem.

(5) The Director should be promptly alerted to controversial permit situations which the Corps has indicated it will refer to Washington under the Memorandum of Understanding or where the applicant or the regulatory agency has so clearly objected to the Service or another bureau's recommendations that the matter will likely be referred to Washington for resolution. Where referral to Washington is deemed to be imminent the alert, in exception to par. 7.1E(2), above, should be accompanied by essential file materials and a concise summary of the case and the Department's involvements (see 503 DM 1).

(6) In cases defined above where file materials are submitted to the Central Office, only single copies of the following are required: The Public Notice and any fact sheet, a project location map (with site superimposed on quadrangle sheet or navigation chart), the completed Field Appraisal form, the Service report, any other pertinent correspondence or hearing records, and the Departmental report.

F. Resolution of issues following report release. (1) Follow-up with the regulatory agency is to be made on a continuing basis to determine the disposition of cases of concern to the Service and the Department. Copies of permits issued are to be obtained for Service files, with copy to the Central Office if appropriate.

(2) Every effort is to be made to resolve problems at the field level. However, if this is not possible, the Corps in accordance with the July 13, 1967, Memorandum of Understanding, will refer the controversial permit matters to the Under Secretary. The following procedure is followed after Interior's report is filed with the District Engineer:

The District Engineer. In deciding whether a permit should be issued, shall weigh all relevant factors in reaching his decision. In any case where Directors of the Secretary of the Interior advise the District Engineers that proposed work will impair the water quality in violation of applicable water quality standards or unreasonably impair the natural resources or the related environment, he shall, within the limits of his responsibility, encourage the applicant to take steps that will resolve the objections to the work. Failing in this respect, the District Engineer shall forward the case for the consideration of the Chief of Engineers and the appropriate Regional Director of the Secretary of the Interior shall submit his views and recommendations to his agency's Washington Headquarters.

The Chief of Engineers shall refer to the Under Secretary of the Interior all those cases referred to him containing unresolved substantive differences of views and shall include his analysis thereof, for the purpose of obtaining the Department of the Interior's comments prior to final determination of the issues.

In those cases where the Chief of Engineers and the Under Secretary are unable

to resolve the remaining issues, the cases will be referred to the Secretary of the Army for decision in consultation with the Secretary of the Interior.

(3) The Associate Director—Environment and Research is to represent the Service on a review committee to advise the Secretariat of the course of action to be followed in the efforts at resolution.

(4) Although procedures have not been agreed upon with regulatory agencies other than the Corps for cases of failure or resolution in the field, any such cases should be referred promptly to the Director with full particulars so that he may attempt resolution of the controversial matters at Washington level.

7.2 Environmental impact statements.
A. Federal agencies have a responsibility to seek consultation with the Service in relation to their preparation of environmental statements required by Sec. 102(2)(C) and other provisions of the NEPA (National Environmental Policy Act) and the Service has a responsibility by law and expertise to advise such agencies.

B. The Service also has a responsibility to review draft environmental statements and to prepare comments thereon as a part of the Departmental comments made in response to requests for official review and comment on prepared draft environmental impact statements.

C. Distinction must be maintained between these two types of responsibility, as follows:

In the first, the Service should provide such advice as it considers appropriate directly to the Federal agency at field level upon its request. Where Service responsibilities are known or suspected of being involved the Service may offer any appropriate advice or remind the agency of its responsibility to consult with the Service and other environmentally expert and responsible bureaus and agencies.

In the second, the Service must make its contribution through the Department's Office of Environmental Project Review. It should comment on the accuracy of the statement with respect to fish and wildlife and related matters, on the completeness and comprehensiveness of the statement in relation to these matters, and on the compliance with the requirements of the NEPA and the guidelines of the Council on Environmental Quality.

D. Consistency must be observed as fully as possible by Service personnel not only in meeting these responsibilities but in reporting on the one or more Federal permits required for the proposal at issue. This will require some considerable care and attention in cases particularly where different persons or different times are involved in the several actions. Concurrent actions by different individuals must be closely coordinated. But in many cases, earlier action on review of a permit application must be carefully reviewed and accounted for in preparation of comments on a subsequent permit application or draft environmental statement.

If circumstances have changed so that current comment necessarily must

differ from an earlier comment, a full explanation of such circumstances must be given and a persuasive justification made for the current position taken. In no case should the reviewer fail to search out and thoroughly consider the validity of earlier actions before taking a different position. On the other hand, a faulty earlier position cannot be ignored, it must be forthrightly addressed and disposed with minimum embarrassment to the Service and Department. It is expected that the problems of non-consistency will be less likely to occur in the future in that coordination among regulatory and review agencies will encourage if not demand concurrent review actions on related permit applications and environmental impact statements.

E. Regional offices of the Service should expect to receive documents and requests for concurrent review of permit applications and draft environmental impact statements to come to them from the Office of Environmental Project Review in Washington, particularly those involving major and extensive proposals. In these cases, the procedure described in paragraph 1.4D of 503 DM 1 will be followed, but in addition, the Service report mandated by the Fish and Wildlife Coordination Act will either be incorporated into the official Departmental comments as an identified section or where appropriate because of the length of the report or other reason, a summary of the report thus incorporated and the report itself filed directly by the Service with the appropriate office of the responsible Federal regulatory agency.

7.3 Reporting unauthorized work or activity. A. Although a detailed report is usually not prepared on unauthorized work, complete records must be maintained (see App. B-5), a field surveillance and appraisal report prepared (App. B-2), and a request made to the regulatory agency by the Regional Director for enforcement action if it is determined that the work or activity is in fact being conducted unlawfully (i.e. without permit or in violation of the permit). It usually will be found more effective for the Regional Director to transmit his request by certified mail (see App. A-5 and A-6).

B. If action is not taken in a reasonably timely manner, the Regional or Field Solicitor should be requested to intercede to elicit any essential expedited action. See the flow chart of actions on apparent illegal activities, App. B-4b. If court action ensues the investigating biologist is likely to be called to testify; see Sec. 10 for advice on such participation.

8. Follow-up of permit work and surveillance of illegal work. Successful achievement of the Service objectives and goals in relation to dredge and fill activities requires continuing, consistently diligent surveillance of waters and wetlands throughout the Nation by Service biologists in coordination with responsible Federal regulatory agencies to maintain a comprehensive monitoring of all activities conducted in waters under their purview.

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8.1 A variety of techniques have been suggested and used to intensify surveillance coverage with the limited Service resources. These include:

A. Intensive, complete coverage of critical areas—preferably periodic (bi-weekly, monthly, or as resources permit) but varied as to timing to avoid strict regularity.

B. Comprehensive, semi-intensive coverage of an entire length of coast, river, or lake—periodic as under Sec. 8.1A, above.

C. Random, occasional coverage of a critical area or length of coast, river, or lake incidental to field reconnaissance of permit applications and other field studies.

D. Comprehensive coverage with assistance of NMFS, district biologists of the State, and/or concerned citizens, and/or Service personnel of other divisions LE, Refuges, Technical Assistance—periodic (quarterly, semiannual, or as resources permit).

8.2 Assistance in surveillance and in intensifying regulatory agency monitoring can be furthered in a number of ways:

A. Sponsoring work shops and symposia.

B. Issuing special reports documenting the value of shallow waters and wetlands in key areas, such as estuaries, and otherwise supporting the need for regional, environmentally sensitive land management planning and control.

C. Eliciting support from government agencies with coordinate interests, conservation groups, and other influential entities in urging intensified surveillance for illegal work and monitoring of permitted activities by the regulatory agency.

9. Education of the public.

9.1 *Basis.* Informing the general public and decisionmakers of the ecological, hydrological, and legal bases of the concepts underlying the Service's intensified efforts to save the naturally functioning aquatic and related terrestrial ecosystems of shallow waters and wetlands of the Nation is essential to attaining Service goals.

This is as true for the potholes of the Midwest "duck factory" as it is for the bottomland hardwoods of the Southeast, the extensive estuarine complexes of the Atlantic, Gulf, and Alaska Coasts, the discrete estuaries of Maine and Pacific Coasts, the bays and shoreline marshes of the Great Lakes, and the oxbows and islands of our major rivers.

9.2 *Means.* A. The Ecological Services biologist must take every opportunity to inform the public of the scientific and legal bases and assist others who are concerned to do so. But he should not merely react to opportunities, for many times these will only permit restatement of the facts to those who already are informed or are at least environmentally oriented and sympathetic. The facts of wetland and other environmental values should be brought to local governments and others who may encourage environmentally damaging development.

B. The legal references of App. D and the technical references of App. G should be perused and frequently consulted in this regard by every Division biologist, and App. H and I are useful aids to the biologist and to his efforts of educating the public and public officials.

C. To be effective in educating others, the biologist must first fully educate himself and continually renew and add breadth and depth to his vision and understanding. The involved ecosystems are in no way simple nor well-understood by even those physical and biological scientists in the forefront of research on these matters. Nevertheless, much is known and the literature is extensive, particularly on coastal and estuarine ecosystems.

D. The following items of literature cover much of the basic knowledge which must be comprehended by all Division biologists involved in dredge and fill activities:

- Annon., 1956. *Wetlands of the United States*. Circ. 39, USFWS (Repub. 1971).
- Leopold, L. B. and W. B. Langbein, 1960. *A Primer on Water*. USGS.
- Swenson, H. A. and H. L. Baldwin, 1965. *A Primer on Water Quality*. USGS.
- Teal, J. M. and M. Teal, 1969. *Life and Death of the Salt Marsh*. Audubon/Ballantine (Paperback Ed.).
- Annon., 1970. *National Estuary Study*. USFWS, 7 Vols. (especially App. A, Vol. 2; App. B, Vol. 3; and App. I, Vol. 8).
- Annon., 1970. *Our Waters and Wetlands: How the Corps of Engineers Can Prevent Their Destruction and Pollution*. U.S. Congress, House Report 91-917 (see App. D-6).
- Wharton, C. H., 1970. *The Southern River Swamp—A Multiple-Use Environment*. Georgia State University.
- Annon., 1972. *Increasing Protection for Our Waters, Wetlands and Shorelines: The Corps of Engineers*. U.S. Congress, House Report 92-1323 (see App. D-6).
- Clark, John, 1974. *Coastal Ecosystems, Ecological Considerations for Management of the Coastal Zone*. The Conservation Foundation.

Many other citations could be listed, of course, but the above, mainly written for the general reader, provide a basic essential overview from which the biologist can branch out to more definitive works. Additional technical sources are cited in the above-listed references and in the App. G-4 and G-5 articles.

E. Many methods and techniques can be used to educate the public, some of which have been noted above in relation to follow-up and surveillance activities:

(1) The media should be utilized as fully as possible to inform the public of ecological principles through articles on locally newsworthy, current situations. Contacts can be made through concerned citizens or directly with news media to properly present the environmental viewpoint of dredge and fill issues. Discretion must be used, however, to avoid jeopardizing any ongoing negotiations with the applicant or lead agency.

(2) Participation in school programs can be helpful in furthering the education of the public on ecological principles. Here are some of the ways:

(a) Lectures and slide talks to primary, secondary, and college-level classes.

(b) Show-me field trips and summer field study classes made in cooperation with schools and summer camps organized by charitable groups, churches, etc.

(c) Field investigations, particular inventory studies of important habitats, organized with schools to utilize student classes in ecology or field biology for the collection and identification of species, mapping of habitat types, etc.

(3) Lectures, slide talks, and show-me fields trips can be profitably arranged with adult groups, especially with organizations of adults such as Rotary, Kiwanis, religious groups, etc.

F. In connection with the foregoing direct involvements with the public, further publicity can be arranged with news media and the education success can be heightened by distribution of printed material.

Such printed material is available in the Service's popular pamphlets on estuaries, endangered species, and the like, as well as from State sources, Sierra Club, Soil Conservation Service, local conservation groups, and many others.

Also, special publications can be prepared by the Service such as those prepared by the Northeast Region on the Long Island wetlands, by the Pacific Region on Southern California estuaries and coastal wetlands, and by the Southeastern Region on guideline for permit applications.

10. Participation in judicial and other hearings.

10.1 *Basis.* A. Involvements with navigation permits frequently requires participation by Service personnel in the resolution of issues through hearings.

B. Participation in judicial hearing, and presumably in those quasi-judicial hearings and proceedings of regulatory agencies such as the Corps, EPA, AEC, and FPC, must be authorized in writing by the Regional Director (see Service Manual 6 AM-3.1). If the Director on advice of the Regional Director decides that participation is not proper, the Solicitor, acting for the Secretary, reviews the decisions and provides counsel on related legal actions.

C. The Office of the Solicitor should be kept advised of any judicial involvements of the Service; his office should be called upon to serve as liaison with U.S. and other attorneys and to provide any other needed counsel. Any publicity of hearing matters must be restricted to that approved by counsel.

D. This section is addressed to participation by Service personnel on matters of fact or expert opinion in hearings in relation to Government business and records. Participation by Service employees as expert witnesses in proceedings between private litigants is normally prohibited. Yet an employee may be permitted to testify as an expert on his own time at his own expense if he clearly avoids representing his testimony as in any way stating official position.

10.2 *Gathering information in support of testimony at hearings.* A. On-site, first-hand observations and data usually will provide far more persuasive evidence in judicial hearings than evidence from the literature, although familiarity with

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the literature and other sources of information is also essential to well rounded testimony.

B. In preparation for cases to be brought to court or other formal hearing the Service biologist must not only search out all available knowledge from cooperators and other sources, but he must also make as detailed and comprehensive field studies as time and his resources of manpower and equipment will permit.

C. Field investigations on-site ideally include:

(1) An inventory (population estimates by species) and delineation on maps of the distribution of all important species of plants and animals in the impact area;

(2) Determination of the salient physical and chemical characteristics of impact area waters—temperatures, salinities, current patterns, tidal ranges, sediment transport and shoaling patterns, turbidity, dissolved oxygen, degree of pollution, stream discharge rates, turnover or flushing rates, etc.;

(3) Estimation of human uses and satisfactions including sport and commercial harvests;

(4) Comparison of topographic and other data furnished by the project sponsor with that observed on-site to detect any discrepancies;

(5) Assessment of the physical, biological, and esthetic impacts of the proposed works from on-site observations made while visualizing and imagining the planned works in place and noting the agreement of plan orientation points, borrow areas, fill areas, roads, etc., to observed physical, biological, and other environmental features of the site, including tide marks, vegetation lines (by

species), depth lines, water current lines, etc.; and

(6) Documentation by written field notes, photographs, map notations, instrument readings, biological samples, records of interviews, etc., including completed field appraisal forms for each significantly different instance of field observation (see App. B-2 and B-3).

10.3 *Preparation of material for legal briefs or submission for the record.*

A. The witness must prepare his testimony and record material in the closest possible harmony with his attorney.

B. Since each hearing officer or judge has wide latitude in laying down requirements of format, time of submittal, number of copies, and other matters related to presentation of record material within the differing guidelines of the several regulatory or judicial forums, only a few general guiding principles can be set forth here:

(1) The points of fact or opinion to be developed must be jointly selected by the attorney and witness, seeking those that can be presented most persuasively and eschewing weak points and those on which the attorney and witness are not both fully conversant.

(2) The points selected must be thoroughly researched by the witness and explored fully with the attorney to reach common understanding and develop the proper means of presentation.

(3) The points selected must also be critically examined with help of counsel to discover potential weaknesses and develop rebuttal answers to questions that may be posed by opposing attorneys.

(4) With guidance from his attorney, the witness must prepare his brief and record material strictly in accordance with the standards and requirements of the hearing officer or court.

10.4 *Oral testimony.* A. Advice on this point is given in the Service Manual (6 Am 3.1B) as follows:

In an appearance on the witness stand, an employee should keep this advice in mind:

(1) Be sure the question is understood before giving an answer.

(2) Do not be rushed into answering; stay calm and deliberate.

(3) Be as courteous and responsive as possible.

(4) Stick to facts and do not venture into hearsay and opinion. (An exception might be in the case of expert opinions.)

B. The Manual advice is good. However, the Ecological Services biologist usually will be testifying as an expert witness and need not hesitate to express opinion he believes to be well founded on his training and experience.

C. Some additional advice particularly related to adversary proceedings follows:

(1) Avoid involved answers which open up debatable points or burden the proceedings. Yet do not assume the hearing officer knows or already understands the facts of the situation or the basic ecological principles; give simple, concise, and fully intelligible answers that form a complete record.

(2) Be alert for questions which permit fuller development of your position.

(3) Do not try to answer unanswerable questions or those for which you do not know the factual answer, unless the question admits of developing your position in a tangential way.

(4) Shun belligerency; it is never helpful to your credibility or position.

(5) Avoid evasive, counter-punching, or "cute" answers which can only alienate the hearing officer or judge; such answers will not help your position.

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APPENDIX D

**U.S. FISH AND WILDLIFE SERVICE
MITIGATION POLICY**

(As published in the Federal Register on Friday, January 23, 1981)

Federal Register

Friday
January 23, 1981

Part III

Department of the
Interior

Fish and Wildlife Service

U.S. Fish and Wildlife Service Mitigation
Policy

"Position Paper of the Fish and Wildlife Service Relative to Losses to Fish and Wildlife Habitat Caused by Federally Planned or Constructed Water Resource Developments" and the Service River Basin Studies Manual Release 2.350 entitled "General Bureau Policy on River Basin Studies."

II. AUTHORITY

This policy is established in accordance with the following major authorities: (See Appendix A for other authorities.)

Fish and Wildlife Act of 1956 (16 U.S.C. 742(a)-754). This Act authorizes the development and distribution of fish and wildlife information to the public, Congress, and the President, and the development of policies and procedures that are necessary and desirable to carry out the laws relating to fish and wildlife including: (1) ". . . take such steps as may be required for the development, advancement, management, conservation, and protection of the fisheries resources;" and (2) ". . . take such steps as may be required for the development, management, advancement, conservation, and protection of wildlife resources through research . . . and other means."

Fish and Wildlife Coordination Act (16 U.S.C. 661-667(e)). This Act authorizes the U.S. Fish and Wildlife Service, National Marine Fisheries Service (NMFS), and State agencies responsible for fish and wildlife resources to investigate all proposed Federal undertakings and non-Federal actions needing a Federal permit or license which would impound, divert, deepen, or otherwise control or modify a stream or other body of water and to make mitigation and enhancement recommendations to the involved Federal agency. "Recommendations . . . shall be as specific as practicable with respect to features recommended for wildlife conservation and development, lands to be utilized or acquired for such purposes, the results expected, and shall describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages." In addition, the Act requires that wildlife conservation be coordinated with other

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Accordingly the mitigation policy of the U.S. Fish and Wildlife Service is set forth as follows:

U.S. FISH AND WILDLIFE SERVICE MITIGATION POLICY

I. PURPOSE

This document establishes policy for U.S. Fish and Wildlife Service recommendations on mitigating the adverse impacts of land and water developments on fish, wildlife, their habitats, and uses thereof. It will help to assure consistent and effective recommendations by outlining policy for the levels of mitigation needed and the various methods for accomplishing mitigation. It will allow Federal action agencies and private developers to anticipate Service recommendations and plan for mitigation measures early, thus avoiding delays and assuring equal consideration of fish and wildlife resources with other project features and purposes. This policy provides guidance for Service personnel but variations appropriate to individual circumstances are permitted.

This policy supersedes the December 18, 1974, policy statement entitled

features of water resource development programs.

Determinations under this authority for specific projects located in estuarine areas constitute compliance with the provisions of the Estuary Protection Act. (See Appendix A.)

Watershed Protection and Flood Prevention Act (16 U.S.C. 1001-1009). This Act allows the Secretary of the Interior to make surveys, investigations, and "... prepare a report with recommendations concerning the conservation and development of wildlife resources ..." on small watershed projects.

National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347). This Act and its implementing regulations (40 CFR Part 1500-1508) requires that the U.S. Fish and Wildlife Service be notified of all major Federal actions affecting fish and wildlife resources and their views and recommendations solicited. Upon completion of a draft Environmental Impact Statement, the Service is required to review it and make comments and recommendations, as appropriate. In addition, the Act provides that "the Congress authorizes and directs that, to the fullest extent possible . . . all agencies of the Federal Government shall . . . identify and develop methods and procedures . . . which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations."

III SCOPE

A. Coverage

This policy applies to all activities of the Service related to the evaluation of impacts of land and water developments and the subsequent recommendations to mitigate those adverse impacts except as specifically excluded below. This includes: (1) investigations and recommendations for all actions requiring a federally issued permit or license that would impact waters of the U.S.; (2) all major Federal actions significantly affecting the quality of the human environment; and (3) other Federal actions for which the Service has legislative authority or executive direction for involvement including, but

not limited to: coal, minerals, and outer continental shelf lease sales or Federal approval of State permit programs for the control of discharges of dredged or fill material.

B. Exclusions

This policy does not apply to threatened or endangered species. The requirements for threatened and endangered species are covered in the Endangered Species Act of 1973 and accompanying regulations at 50 CFR Parts 17, 402, and 424. Under Section 7 of the Endangered Species Act, as amended, all Federal agencies shall ensure that activities authorized, funded, or carried out by them are not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. Mitigating adverse impacts of a project would not in itself be viewed as satisfactory agency compliance with Section 7. Furthermore, it is clear to the Service that Congress considered the traditional concept of mitigation to be inappropriate for Federal activities impacting listed species or their critical habitat.

This policy does not apply to Service recommendations for Federal projects completed or other projects permitted or licensed prior to enactment of Service authorities (unless indicated otherwise in a specific statute) or specifically exempted by them and not subject to reauthorization or renewal. It also does not apply where mitigation plans have already been agreed to be the Service, except where new activities or changes in current activities would result in new impacts or where new authorities, new scientific information, or developer failure to implement agreed upon recommendations make it necessary. Service personnel involved in land and water development investigations will make a judgment as to the applicability of the policy for mitigation plans under development and not yet agreed upon as of the date of final publication of this policy.

Finally, this policy does not apply to Service recommendations related to the enhancement of fish and wildlife resources. Recommendations for measures which improve fish and wildlife resources beyond that which would exist without the project and which cannot be used to satisfy the

appropriate mitigation planning goal should be considered as enhancement measures. The Service strongly supports enhancement of fish and wildlife resources. The Service will recommend that all opportunities for fish and wildlife resources enhancement be thoroughly considered and included in project plans, to the extent practicable.

IV. DEFINITION OF MITIGATION

The President's Council on Environmental Quality defined the term "mitigation" in the National Environmental Policy Act regulations to include: "(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments." (40 CFR Part 1508.20(a-e)).

The Service supports and adopts this definition of mitigation and considers the specific elements to represent the desirable sequence of steps in the mitigation planning process. (See Appendix B for definitions of other important terms necessary to understand this policy.)

V. MITIGATION POLICY OF THE U.S. FISH AND WILDLIFE SERVICE

The overall goals and objectives of the Service are outlined in the Service Management Plan and an accompanying Important Resource Problems document which describes specific fish and wildlife problems of importance for planning purposes. Goals and objectives for Service activities related to land and water development are contained in the Habitat Preservation Program Management Document. The mitigation policy was designed to stand on its own; however, these documents will be consulted by Service personnel to provide the proper perspective for the Service mitigation policy. They are available upon request from the Director, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

A. General Policy

The mission of the U.S. Fish and Wildlife Service is to:

PROVIDE THE FEDERAL LEADERSHIP TO CONSERVE, PROTECT AND ENHANCE FISH AND WILDLIFE AND THEIR HABITAT FOR THE CONTINUING BENEFIT OF THE PEOPLE

The goal of Service activities oriented toward land and water development responds to Congressional direction that fish and wildlife resource conservation receive equal consideration and be coordinated with other features of Federal resource development and regulatory programs through effective and harmonious planning, development, maintenance and coordination of fish and wildlife resource conservation and rehabilitation in the United States, its territories and possessions. The goal is to:

CONSERVE, PROTECT AND ENHANCE FISH AND WILDLIFE AND THEIR HABITATS AND FACILITATE BALANCED DEVELOPMENT OF THIS NATION'S NATURAL RESOURCES BY TIMELY AND EFFECTIVE PROVISION OF FISH AND WILDLIFE INFORMATION AND RECOMMENDATIONS

Fish and wildlife and their habitats are public resources with clear commercial, recreational, social, and ecological value to the Nation. They are conserved and managed for the people by State, Federal and Indian tribal Governments. If land or water developments are proposed which may reduce or eliminate the public benefits that are provided by such natural resources, then State and Federal resource agencies and Indian tribal agencies have a responsibility to recommend means and measures to mitigate such losses. Accordingly:

IN THE INTEREST OF SERVING THE PUBLIC, IT IS THE POLICY OF THE U.S. FISH AND WILDLIFE SERVICE TO SEEK TO MITIGATE LOSSES OF FISH, WILDLIFE, THEIR HABITATS, AND USES THEREOF FROM LAND AND WATER DEVELOPMENTS

In administering this policy, the Service will strive to provide information and recommendations that fully support the Nation's need for fish and wildlife resource conservation as well as sound economic and social development through balanced multiple use of the Nation's natural resources. The Service will actively seek to facilitate needed development and avoid conflicts and delays through early involvement in land and water development planning activities in advance of proposals for specific projects or during the early planning and design stage of specific projects.

This should include early identification of resource areas containing high and low habitat values for important species and the

development of ecological design information that outlines specific practicable means and measures for avoiding or minimizing impacts. The former can be used by developers to site projects in the least valuable areas. This could possibly lower total project costs to development interests. These actions are part of good planning and are in the best public interest.

The early provision of information to private and public agencies in a form which enables them to avoid or minimize fish and wildlife losses as a part of initial project design is the preferred form of fish and wildlife conservation.

B. U.S. Fish and Wildlife Service Mitigation Planning Goals by Resource Category

The planning goals and guidelines that follow will be used to guide Service recommendations on mitigation of project impacts. Four Resource Categories are used to indicate that the level of mitigation recommended will be consistent with the fish and wildlife resource values involved.

The policy covers impacts to fish and wildlife populations, their habitat and the human uses thereof. However, the primary focus in terms of specific guidance is on recommendations related to habitat value losses. In many cases, compensation of habitat value losses should result in replacement of fish and wildlife populations and human uses. But where it does not, the Service will recommend appropriate additional means and measures.

RESOURCE CATEGORY 1

a. Designation Criteria

Habitat to be impacted is of high value for evaluation species and is unique and irreplaceable on a national basis or in the ecoregion section.

b. Mitigation Goal

No Loss of Existing Habitat Value.

c. Guidelines

The Service will recommend that all losses of existing habitat be prevented as these one-of-a-kind areas cannot be replaced. Insignificant changes that do not result in adverse impacts on habitat value may be acceptable provided they will have no significant cumulative impact.

RESOURCE CATEGORY 2

a. Designation Criteria

Habitat to be impacted is of high value for evaluation species and is relatively scarce or becoming scarce on a national basis or in the ecoregion section.

b. Mitigation Goal**No Net Loss of In-Kind Habitat Value.****c. Guideline**

The Service will recommend ways to avoid or minimize losses. If losses are likely to occur, then the Service will recommend ways to immediately rectify them or reduce or eliminate them over time. If losses remain likely to occur, then the Service will recommend that those losses be compensated by replacement of the same kind of habitat value so that the total loss of such in-kind habitat value will be eliminated.

Specific ways to achieve this planning goal include: (1) physical modification of replacement habitat to convert it to the same type lost; (2) restoration or rehabilitation of previously altered habitat; (3) increased management of similar replacement habitat so that the in-kind value of the lost habitat is replaced, or (4) a combination of these measures. By replacing habitat value losses with similar habitat values, populations of species associated with that habitat may remain relatively stable in the area over time. This is generally referred to as in-kind replacement.

Exceptions: An exception can be made to this planning goal when: (1) different habitats and species available for replacement are determined to be of greater value than those lost, or (2) in-kind replacement is not physically or biologically attainable in the ecoregion section. In either case, replacement involving different habitat kinds may be recommended provided that the total value of the habitat lost is recommended for replacement (see the guideline for Category 3 mitigation below).

RESOURCE CATEGORY 3**a. Designation Criteria**

Habitat to be impacted is of high to medium value for evaluation species and is relatively abundant on a national basis.

b. Mitigation Goal

No Net Loss of Habitat Value While Minimizing Loss of In-Kind Habitat Value

c. Guideline

The Service will recommend ways to immediately rectify them or reduce or eliminate them over time. If losses remain likely to occur, then the Service will recommend ways to avoid or minimize losses. If losses are likely to occur, then the Service will recommend that those losses be compensated by replacement of habitat value so that the total loss of habitat value will be eliminated.

It is preferable, in most cases, to recommend ways to replace such habitat value losses in-kind. However, if the Service determines that in-kind replacement is not desirable or possible, then other specific ways to achieve this planning goal include: (1) substituting different kinds of habitats, or (2) increasing management of different replacement habitats so that the value of the lost habitat is replaced. By replacing habitat value losses with different habitats or increasing management of different habitats, populations of species will be different, depending on the ecological attributes of the replacement habitat. This will result in no net loss of total habitat value, but may result in significant differences in fish and wildlife populations. This is generally referred to as out-of-kind replacement.

RESOURCE CATEGORY 4**a. Designation Criteria**

Habitat to be impacted is of medium to low value for evaluation species.

b. Mitigation Goal

Minimize Loss of Habitat Value.

c. Guideline

The Service will recommend ways to avoid or minimize losses. If losses are likely to occur, then the Service will recommend ways to immediately rectify them or reduce or eliminate them over time. If losses remain likely to occur, then the Service may not make a recommendation for compensation, depending on the significance of the potential loss.

However, because these areas possess relatively low habitat values, they will likely exhibit the greatest potential for significant habitat value improvements. Service personnel will fully investigate these areas' potential for improvement, since they could be used to mitigate Resource Category 2 and 3 losses.

C. Mitigation Planning Policies**1. State-Federal Partnership**

a. The U.S. Fish and Wildlife Service will fully coordinate activities with those State agencies responsible for fish and wildlife resources, the National Marine Fisheries Service (NMFS) and the Environmental Protection Agency (EPA) related to the investigation of project proposals and development of mitigation recommendations for resources of concern to the State, NMFS or EPA.

b. Service personnel will place special emphasis on working with State agencies responsible for fish and wildlife resources, NMFS and EPA to

develop compatible approaches and avoid duplication of efforts.

2. Resource Category Determinations

a. The Service will make Resource Category determinations as part of the mitigation planning process. Such determinations will be made early in the planning process and transmitted to the Federal action agency or private developer to aid them in their project planning, to the extent practicable.

b. Resource Category determinations will be made through consultation and coordination with State agencies responsible for fish and wildlife resources and other Federal resource agencies, particularly the National Marine Fisheries Service and the Environmental Protection Agency, whenever resources of concern to those groups are involved. Where other elements of the public, including development groups, have information that can assist in making such determinations, the Service will welcome such information.

c. All Resource Category determinations will contain a technical rationale consistent with the designation criteria. The rationale will: (1) outline the reasons why the evaluation species were selected; (2) discuss the value of the habitat to the evaluation species; and (3) discuss and contrast the relative scarcity of the fish and wildlife resource on a national and ecoregion section basis.

Note.—If the State agency responsible for fish and wildlife resources wishes to outline scarcity on a more local basis, U.S. Fish and Wildlife Service personnel should assist in developing such rationale, whenever practicable.)

d. When funding, personnel, and available information make it practicable, specific geographic areas or, alternatively, specific habitat types that comprise a given Resource Category should be designated in advance of development. Priority for predesignation will be placed on those areas that are of high value for evaluation species and are subject to development pressure in the near future. Such predesignations can be used by developers or regulators to determine the least valuable areas for use in project planning and siting considerations.

e. The following examples should be given special consideration as either Resource Category 1 or 2:

- (1) Certain habitats within Service-identified Important Resource Problem (IRP) areas. Those IRPs dealing with threatened or endangered species are not covered by this policy. (See Scope.)
- (2) Special aquatic and terrestrial sites including legally designated or set-aside

areas such as sanctuaries, fish and wildlife management areas, hatcheries, and refuges, and other aquatic sites such as floodplains, wetlands, mudflats, vegetated shallows, coral reefs, riffles and pools, and springs and seeps.

2. Impact Assessment Principles

a. Changes in fish and wildlife productivity or ecosystem structure and function may not result in a biologically adverse impact. The determination as to whether a biological change constitutes an adverse impact for which mitigation should be recommended is the responsibility of the Service and other involved Federal and State resource agencies.

b. The net biological impact of a development proposal (or alternatives) is the difference in predicted biological conditions between the future with the action and the future without the action. If the future without the action cannot be reasonably predicted and documented by the project sponsor, then the Service analysis should be based on biological conditions that would be expected to exist over the planning period due to natural species succession or implementation of approved restoration/improvement plans or conditions which currently exist in the planning area.

c. Service review of project impacts will consider, whenever practicable:

(1) The total long-term biological impact of the project, including any secondary or indirect impacts regardless of location; and (2) any cumulative effects when viewed in the context of existing or anticipated projects.

d. The Habitat Evaluation Procedures will be used by the Service as a basic tool for evaluating project impacts and as a basis for formulating subsequent recommendations for mitigation subject to the exemptions in the Ecological Services Manual (100 ESM 1). When the Habitat Evaluation Procedures do not apply, then other evaluation systems may be used provided such use conforms with policies provided herein.

e. In those cases where instream flows are an important determinant of habitat value, consideration should be given to the use of the Service's Instream Flow Incremental Methodology to develop instream flow mitigation recommendations, where appropriate.

f. Where specific impact evaluation methods or mitigation technologies are not available, Service employees shall continue to apply their best professional judgment to develop mitigation recommendations.

4. Mitigation Recommendations

a. The Service may recommend support of projects or other proposals when the following criteria are met:

- (1) They are ecologically sound;
- (2) The least environmentally damaging reasonable alternative is selected;
- (3) Every reasonable effort is made to avoid or minimize damage or loss of fish and wildlife resources and uses;
- (4) All important recommended means and measures have been adopted with guaranteed implementation to satisfactorily compensate for unavoidable damage or loss consistent with the appropriate mitigation goal; and
- (5) For wetlands and shallow water habitats, the proposed activity is clearly water dependent and there is a demonstrated public need.

The Service may recommend the "no project" alternative for those projects or other proposals that do not meet all of the above criteria and where there is likely to be a significant fish and wildlife resource loss.

b. Recommendations will be presented by the Service at the earliest possible stage of project planning to assure maximum consideration. The Service will strive to provide mitigation recommendations that represent the best judgment of the Service, including consideration of cost, on the most effective means and measures of satisfactorily achieving the mitigation planning goal. Such recommendations will be developed in cooperation with the Federal action agency or private developer responsible for the project, whenever practicable, and will place heavy reliance on cost estimates provided by that Federal action agency or private developer.

c. The Service will recommend that the Federal action agency include designated funds for all fish and wildlife resource mitigation (including, but not limited to, Service investigation costs, initial development costs and continuing operation, maintenance, replacement, and administrative costs) as part of the initial and any alternative project plans and that mitigation funds (as authorized and appropriated by Congress for Federal projects) be spent concurrently and proportionately with overall project construction and operation funds throughout the life of the project.

Note.—Prevention of losses may necessitate expenditure of funds at an earlier stage of project planning. This is acceptable and preferred.

d. Service mitigation recommendations will be made under an explicit expectation that these means and measures: (1) would be the ultimate

responsibility of the appropriate Federal action agency to implement or enforce; and (2) would provide for a duration of effectiveness for the life of the project plus such additional time required for the adverse effects of an abandoned project to cease to occur.

e. Land acquisition in fee title for the purpose of compensation will be recommended by the Service *only* under one or more of the following three conditions:

- (1) When a change in ownership is necessary to guarantee the future conservation of the fish and wildlife resource consistent with the mitigation goal for the specific project area; or
- (2) When other means and measures for mitigation (see Section 5 below) will not compensate habitat losses consistent with the mitigation goal for the specific project area; or
- (3) When land acquisition in fee title is the most cost-effective means that may partially or completely achieve the mitigation goal for the specific project area.

Service recommendations for fee title land acquisition will seek to identify mitigation lands with marginal economic potential.

f. First priority will be given to recommendation of a mitigation site within the planning area. Second priority will be given to recommendation of a mitigation site in proximity to the planning area within the same ecoregion section. Third priority will be given to recommendation of a mitigation site elsewhere within the same ecoregion section.

g. Service personnel will fully support a variety of uses on mitigation lands where such uses are compatible with dominant fish and wildlife uses and, for Federal wildlife refuges, are consistent with the provisions of the Refuge Recreation Act and the National Wildlife Refuge Administration Act. However, it may be in the best public interest to recommend limiting certain uses that would significantly decrease habitat value for species of high public interest. In such cases, the Service may recommend against such incompatible uses.

h. Measures to increase recreation values will not be recommended by Service personnel to compensate for losses of habitat value. Recreation use losses not restored through habitat value mitigation will be addressed through separate and distinct recommended measures to offset those specific losses.

i. The guidelines contained in this policy do not apply to threatened or endangered species. However, where both habitat and endangered or threatened species impacts are involved,

Service personnel shall fully coordinate Environment efforts with Endangered Species efforts to provide timely, consistent, and unified recommendations for resolution of fish and wildlife impacts, to the extent possible. More specifically, Environment and Endangered Species personnel shall coordinate all related activities dealing with investigations of land and water developments. This includes full use of all provisions that can expedite Service achievement of "one-stop shopping," including coordinated early planning involvement, shared permit review activities, consolidated permit reporting, and consolidated flow of pre-project information to developers, consistent with legislative mandates and deadlines.

j. The Service will place high priority on and continue to develop and implement procedures for reducing delays and conflicts in permit related activities. Such procedures will include, but not be limited to:

- (1) Joint processing of permits.
- (2) Resource mapping.
- (3) Early provision of ecological design information.
- (4) Involvement in Special Area Management Planning.

k. The Service will encourage predevelopment compensation actions by Federal action agencies which can be used to offset future unavoidable losses for lands or waters not adequately protected by an existing law, policy, or program.

Banking of habitat value for the express purpose of compensation for unavoidable future losses will be considered to be a mitigation measure and not an enhancement measure. Withdrawals from the mitigation "bank" to offset future unavoidable losses will be based on habitat value replacement, not acreage or cost for land purchase and management.

5. Mitigation Means and Measures

Mitigation recommendations can include, but are not limited to, the types of actions presented below. These means and measures are presented in the general order and priority in which they should be recommended by Service personnel with the exception of the "no project" alternative. (See Section 4(a)).

a. Avoid the impact

(1) Design project to avoid damage or loss of fish and wildlife resources including management practices such as timing of activities or structural features such as multiple outlets, passage or avoidance structures and water pollution control facilities.

(2) Use of nonstructural alternative to proposed project.

(3) No project.

b. Minimize the impact

(1) Include conservation of fish and wildlife as an authorized purpose of Federal projects.

(2) Locate at the least environmentally damaging site.

(3) Reduce the size of the project.

(4) Schedule timing and control of initial construction operations and subsequent operation and maintenance to minimize disruption of biological community structure and function.

(5) Selective tree clearing or other habitat manipulation.

(6) Control water pollution through best management practices.

(7) Time and control flow diversions and releases.

(8) Maintain public access.

(9) Control public access for recreational or commercial purposes.

(10) Control domestic livestock use.

c. Rectify the impact

(1) Regrade disturbed areas to contours which provide optimal fish and wildlife habitat or approximate original contours.

(2) Seed, fertilize and treat areas as necessary to restore fish and wildlife resources.

(3) Plant shrubs and trees and other vegetation to speed recovery.

(4) Control polluted spoil areas.

(5) Restock fish and wildlife resources in repaired areas. Fish stocking or introductions will be consistent with the Service Fish Health Policy (January 3, 1978).

d. Reduce or eliminate the impact over time

(1) Provide periodic monitoring of mitigation features to assure continuous operation.

(2) Assure proper training of project personnel in the operations of the facility to preserve existing or restored fish and wildlife resources at project sites.

(3) Maintain or replace equipment or structures so that future loss of fish and wildlife resources due to equipment or structure failure does not occur.

e. Compensate for impacts

(1) Conduct wildlife management activities to increase habitat values of existing areas, with project lands and nearby public lands receiving priority.

(2) Conduct habitat construction activities to fully restore or rehabilitate previously altered habitat or modify existing habitat suited to evaluation

species for purpose of completely offsetting habitat value losses.

(3) Build fishery propagation facility

(4) Arrange legislative set-aside or protective designation for public lands

(5) Provide buffer zones.

(6) Lease habitat.

(7) Acquire wildlife easements.

(8) Acquire water rights.

(9) Acquire land in fee title.

f. Follow-up

The Service encourages, supports, and will initiate, whenever practicable, post-project evaluations to determine the effectiveness of recommendations in achieving the mitigation planning goal. The Service will initiate additional follow-up studies when funds are provided by the Federal action agency.

In those instances where Service personnel determine that Federal agencies or private developers have not carried out those agreed upon mitigation means and measures, then the Service will request the responsible Federal action agency to initiate corrective action.

APPENDIX A—OTHER AUTHORITIES AND DIRECTION FOR SERVICE MITIGATION RECOMMENDATIONS LEGISLATIVE

Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.). The 1977 amendments require the Fish and Wildlife Service "... upon request the Governor of a State, and without reimbursement, to provide technical assistance to such State in developing a Statewide (water quality planning) program and in implementing such program after its approval." In addition, this Act requires the Service to comment on proposed State permit programs for the control of discharges of dredged or fill material and to comment on all Federal permits within 90 days of receipt.

Federal Power Act of 1920, as amended (16 U.S.C. 791(a), 803, 811). This Act authorizes the Secretary of the Interior to impose conditions on licenses issued for hydroelectric projects within specific withdrawn public lands. The Secretary is given specific authority to prescribe fishways to be constructed, maintained, and operated at the licensee's expense.

Estuary Protection Act (16 U.S.C. 1221-1226). This Act requires the Secretary of the Interior to review all project plans and reports for land and water resource development affecting estuaries and to make recommendations for conservation, protection, and enhancement.

Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1464). This Act

requires the Secretary of Commerce to obtain the views of Federal agencies affected by the program, including the Department of the Interior, and to ensure that these views have been given adequate consideration before approval of Coastal Zone Management Plans. The Service provides the Department's views about fish and wildlife resources. Pursuant to the Coastal Zone Management Act Amendments of 1980 (Pub. L. 96-464) the Department of Interior provides comments on Federal grants to help States protect and preserve coastal areas because of their "... conservation, recreational, ecological or aesthetic values." The 1980 Amendments also authorize the Department of Interior to enter into Special Area Management Planning to "... provide for increased specificity in protecting natural resources, reasonable coast dependent economic growth ... and improved predictability in government decisionmaking."

Water Bank Act (16 U.S.C. 1301-1311). This Act requires that the Secretary of Agriculture "... shall consult with the Secretary of Interior and take appropriate measures to insure that the program carried out ... is in harmony with wetlands programs administered by the Secretary of the Interior."

Wild and Scenic Rivers Act (16 U.S.C. 1271-1287). This Act requires the Secretary of the Interior to comment on such proposals. The Fish and Wildlife Service provides the Department's views with regard to fish and wildlife resources.

Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025). This Act requires that the Fish and Wildlife Service recommend to the Secretary those lands that shall not be leased for geothermal development by reason of their status "as ... a fish hatchery administered by the Secretary, wildlife refuge, wildlife range, game range, wildlife management area, waterfowl production area, or for lands acquired or reserved for the protection and conservation of fish and wildlife that are threatened with extinction."

Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.). This Act requires the Department of the Interior to regulate surface mining and reclamation at existing and future mining areas. The Fish and Wildlife Service provides the Department with technical assistance regarding fish and wildlife aspects of Department programs on active and abandoned mine lands, including review of State regulatory submissions and mining plans, and comments on mining and reclamation plans.

Outer Continental Shelf Lands Act Amendments of 1978 (43 U.S.C. 1801). This Act requires the Secretary of the Interior to manage an environmentally sound oil and natural gas development program on the outer continental shelf. The Fish and Wildlife Service provides recommendations for the Department regarding potential ecological impacts before leasing in specific areas and contributes to environmental studies undertaken subsequent to leasing.

Mineral Leasing Act of 1920, as amended (30 U.S.C. 185). This Act authorizes the Secretary of the Interior to grant rights-of-way through Federal lands for pipelines transporting oil, natural gas, synthetic liquids or gaseous fuels, or any other refined liquid fuel. Prior to granting a right-of-way for a project which may have a significant impact on the environment, the Secretary is required by this Act to request and review the applicant's plan for construction, operation, and rehabilitation of the right-of-way. Also, the Secretary is authorized to issue guidelines and impose stipulations for such projects which shall include, but not be limited to, "... requirements for restoration, revegetation and curtailment or erosion of surface land; ... requirements designed to control or prevent damage to the environment (including damage to fish and wildlife habitat); and ... requirements to protect the interests of individuals living in the general area of the right-of-way or permit who rely on the fish, wildlife and biotic resources of the area for subsistence purposes."

Cooperative Unit Act (16 U.S.C. 753(a)-753(b)). This Act provides for cooperative programs for research and training between the Fish and Wildlife Service, the States, and universities.

Airport and Airway Development Act (49 U.S.C. 1716). This Act requires the Secretary of Transportation to "... consult with the Secretary of the Interior with regard to the effect that any project ... may have on natural resources including, but not limited to, fish and wildlife, natural, scenic, and recreation assets, water and air quality, and other factors affecting the environment ...".

Department of Transportation Act (49 U.S.C. 1653(f)). This Act makes it national policy that "... special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites ...". and requires that the Secretary of Transportation "... cooperate and consult with the Secretary of the Interior in developing transportation plans and programs that include measures to maintain or enhance the natural beauty

of the lands traversed." The Department of Transportation projects using protected lands cannot be approved unless there are no feasible and prudent alternatives to avoid such use and, if none, all possible measures to minimize harm have been considered.

EXECUTIVE

President's Water Policy Message (June 6, 1978). This Message directs the Secretary of the Interior to promulgate procedures for determination of measures to prevent or to mitigate losses of fish and wildlife resources.

Water Resources Council's Final Rules: Principles and Standards for Water and Related Land Resources Planning—Level C (September 29, 1980). These rules reiterate the importance of participation in the development planning process by interested Federal agencies, including the Department of the Interior. This participation includes review, coordination, or consultation required under various legislative and executive authorities. Under these rules, "Consideration is to be given to mitigation (as defined in 40 CFR 1508.20) of the adverse effects of each alternative plan. Appropriate mitigation is to be included where suitable as determined by the agency decisionmaker. Mitigation measures included are to be planned for at least concurrent and proportionate implementation with other major project features, except where such concurrent and proportionate mitigation is physically impossible. In the latter case, the reasons for deviation from this rule are to be presented in the planning report, and mitigation is to be planned for the earliest possible implementation. Mitigation for fish and wildlife and their habitat is to be planned in coordination with Federal and State fish and wildlife agencies in accordance with the Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661-664) (sic)."

Executive Order 11990—Protection of Wetlands (May 24, 1977). This Executive Order requires that each Federal agency "... take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for: (1) acquiring, managing and disposing of Federal lands and facilities; and (2) providing federally undertaken, financed or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation and licensing activities." Relevant wetland concerns and values include, but are not

limited to, maintenance of natural systems and long-term productivity of existing flora and fauna, habitat diversity, hydrological utility, fish, wildlife, timber, and food. Under this Order, a developmental project in a wetland may proceed only if no practicable alternatives can be ascertained and if the proposal . . . includes all practicable measures to minimize harm to the wetland that may result from its use."

Executive Order 11988—Floodplain Management (May 24, 1977). This Executive Order requires that Federal agencies take floodplain management into account when formulating or evaluating water or land use plans and that these concerns be reflected in the budgets, procedures, and regulations of the various agencies. This Order allows developmental activities to proceed in floodplain areas only when the relevant agencies have ". . . considered alternatives to avoid adverse effects and incompatible development in the floodplains . . ." or when, in lieu of this, they have ". . . designed or modified their actions in order to minimize potential harm to or within the floodplain . . .".

Executive Order 11987—Exotic Organisms (May 24, 1977). This Executive Order requires that Federal agencies shall restrict, to the extent permitted by law, the introduction of exotic species into the lands or waters which they own, lease, or hold for purposes of administration, and encourage the States, local governments, and private citizens to do the same. This Executive Order also requires Federal agencies to restrict, to the extent permitted by law, the importation of exotic species and to restrict the use of Federal funds and programs for such importation. The Secretary of the Interior, in consultation with the Secretary of Agriculture, is authorized to develop by rule or regulation a system to standardize and simplify the requirements and procedures appropriate for implementing this Order.

NATIONAL/INTERNATIONAL TREATIES

Federal Trust Responsibility to Indian Tribes. This responsibility is reflected in the numerous Federal treaties with the Indian tribes. These treaties have the force of law. Protection of Indian hunting and fishing rights necessitates conservation of fish and wildlife and their habitat.

Convention Between the United States and Japan (September 19, 1974). This Treaty endorses the establishment of sanctuaries and fixes preservation and enhancement of migratory bird

habitat as a major goal of the signatories.

Convention Between the United States and the Union of Soviet Socialist Republics Concerning the Conservation of Migratory Birds and Their Environments (November 8, 1978). This Treaty endorses the establishment of sanctuaries, refuges, and protected areas. It mandates reducing or eliminating damage to all migratory birds. Furthermore, it provides for designation of special areas for migratory bird breeding, wintering, feeding, and molting, and commits the signatories to ". . . undertake measures necessary to protect the ecosystems in these areas . . . against pollution, detrimental alteration and other environmental degradation."

Implementing legislation, Pub. L. 95-616, was passed in the United States in 1978.

Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (April 15, 1941). This Treaty has several provisions requiring parties to conserve certain wildlife resources and their habitats.

Convention Between the United States and Great Britain (for Canada) for Protection of Migratory Birds (August 1, 1916, as amended January 30, 1979). This Treaty provides for a uniform ". . . system of protection for certain species of birds which migrate between the United States and Canada, in order to assure the preservation of species either harmless or beneficial to man." The Treaty prohibits hunting insectivorous birds, but allows killing of birds under permit when injurious to agriculture. The 1979 amendment allows subsistence hunting of waterfowl outside of the normal hunting season.

APPENDIX B—OTHER DEFINITIONS

"Compensation," when used in the context of Service mitigation recommendations, means full replacement of project-induced losses to fish and wildlife resources, provided such full replacement has been judged by the Service to be consistent with the appropriate mitigation planning goal.

"Ecoregion" refers to a large biogeographical unit characterized by distinctive biotic and abiotic relationships. An ecoregion may be subclassified into domains, divisions, provinces, and sections. A technical explanation and map is provided in the "Ecoregions of the United States" by Robert G. Bailey, published by the U.S. Forest Service, 1976.

"Ecosystem" means all of the biotic elements (i.e., species, populations, and communities) and abiotic elements (i.e., land, air, water, energy) interacting in a given geographic area so that a flow of

energy leads to a clearly defined trophic structure, biotic diversity, and material cycles. (Eugene P. Odum, 1971. *Fundamentals of Ecology*)

"Evaluation species" means those fish and wildlife resources in the planning area that are selected for impact analysis. They must currently be present or known to occur in the planning area during at least one stage of their life history except where species not present (1) have been identified in fish and wildlife restoration or improvement plans approved by State or Federal resource agencies, or (2) will result from natural species succession over the life of the project. In these cases, the analysis may include such identified species not currently in the planning area.

There are two basic approaches to the selection of evaluation species: (1) selection of species with high public interest, economic value or both; and (2) selection of species to provide a broader ecological perspective of an area. The choice of one approach in lieu of the other may result in a completely different outcome in the analysis of a proposed land or water development. Therefore, the objectives of the study should be clearly defined before species selection is initiated. If the objectives of a study are to base a decision on potential impacts to an entire ecological community, such as a unique wetland, then a more ecologically based approach is desirable. If, however, a land or water use decision is to be based on potential impacts to a public use area, then species selection should favor animals with significant human use values. In actual practice, species should be selected to represent social, economic and broad ecological views because mitigation planning efforts incorporate objectives that have social, economic, and ecological aspects. Species selection always should be approached in a manner that will optimize contributions to the stated objectives of the mitigation planning effort.

Most land and water development decisions are strongly influenced by the perceived impacts of the proposed action on human use. Since . . . economically or socially important species have clearly defined linkages to human use, they should be included as evaluation species in all appropriate land and water studies. As a guideline, the following types of species should be considered:

- Species that are associated with Important Resource Problems as designated by the Director of the Fish and Wildlife Service (except for threatened or endangered species).

• Other species with monetary and non-monetary benefits to people accruing from consumptive and nonconsumptive human uses including, but not limited to, fishing, hunting, bird-watching and educational, aesthetic, scientific or subsistence uses.

An analysis based only on those species with directly identifiable economic or social value may not be broad enough to adequately describe all of the ramifications of a land and water use proposal. If it is desirable to increase the ecological perspective of an assessment, the following types of species should be considered:

• Species known to be sensitive to specific land and water use actions. The species selected with this approach serve as "early warning" or indicator species for the affected fish and wildlife community.

• Species that perform a key role in a community because of their role in nutrient cycling or energy flows. These species also serve as indicators for a large segment of the fish and wildlife community, but may be difficult to identify.

• Species that represent groups of species which utilize a common environmental resource (guilds). A representative species is selected from each guild and predicted environmental impacts for the selected species are extended with some degree of confidence to other guild members.

"Federal action agency" means a department, agency or instrumentality of the United States which plans, constructs, operates or maintains a project, or which plans for or approves a permit, lease, or license for projects or manages Federal lands.

"Fish and wildlife resources" means birds, fishes, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

"Habitat" means the area which provides direct support for a given species, population, or community. It includes all environmental features that comprise an area such as air quality, water quality, vegetation and soil characteristics and water supply (including both surface and groundwater).

"Habitat value" means the suitability of an area to support a given evaluation species.

"Important Resource Problem" means a clearly defined problem with a single important population or a community of similar species in a given geographic area as defined by the Director of the Fish and Wildlife Service.

"In-kind replacement" means providing or managing substitute

resources to replace the habitat value of the resources lost, where substitute resources are physically and biologically the same or closely approximate those lost.

"Loss" means a change in fish and wildlife resources due to human activities that is considered adverse and:

- (1) reduces the biological value of that habitat for evaluation species;
- (2) reduces population numbers of evaluation species;
- (3) increases population numbers of "nuisance" species;
- (4) reduces the human use of those fish and wildlife resources; or
- (5) disrupts ecosystem structure and function.

Changes that improve the value of existing habitat for evaluation species are not to be considered losses, i.e., burning or selective tree harvesting for wildlife management purposes. In addition, reductions in animal populations for the purpose of harvest or fish and wildlife management will not be considered as losses for the purpose of this policy.

"Minimize" means to reduce to the smallest practicable amount or degree.

"Mitigation banking" means habitat protection or improvement actions taken expressly for the purpose of compensating for unavoidable losses from specific future development actions. It only includes those actions above and beyond those typically taken by Congress for protection of fish and wildlife resources.

"Out-of-kind replacement" means providing or managing substitute resources to replace the habitat value of the resources lost, where such substitute resources are physically or biologically different from those lost.

"Planning area" means a geographic space with an identified boundary that includes:

- (1) The area identified in the study's authorizing document;
- (2) The locations of resources included in the study's identified problems and opportunities;
- (3) The locations of alternative plans, often called "project areas;" and
- (4) The locations of resources that would be directly, indirectly, or cumulatively affected by alternative plans, often called the "affected area."

"Practicable" means capable of being done within existing constraints. The test of what is practicable depends upon the situation and includes consideration of the pertinent factors, such as environment, cost, or technology.

"Project" means any action, planning or approval process relating to an action

that will directly or indirectly affect fish and wildlife resources.

"Replacement" means the substitution or offsetting of fish and wildlife resource losses with resources considered to be of equivalent biological value. However, resources used for replacement represent loss or modification of another type of habitat value. Replacement actions still result in a loss of habitat acreage and types which will continually diminish the overall national resource base. It should be clearly understood that replacement actions never restore the lost fish and wildlife resource—that is lost forever.

Dated: January 13, 1981.

Cecil Andrus,

Secretary of the Department of the Interior.

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